

# Normativity and Representation in Kant's Theory of Cognition



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This dissertation is submitted for the degree of Doctor of Philosophy  
August, 2019



# Abstract

This dissertation examines various aspects of normativity and representation as they figure in Kant's theory of cognition. In particular, I argue that Kant holds that certain forms of representational content constitutively depend on normative constraint. This applies to all of the kinds of content that can be captured by concepts (viz. 'kind'-properties, and the objective temporal structures that correspond to the "categories"). Since we *perceptually* represent objects as exhibiting these features, even the activities that produce perceptions must be normatively constrained. Nevertheless, representation *per se* does not depend on normative constraint: Kant holds that non-human animals can represent objects, suggesting that he endorses forms of 'non-conceptual content' that don't depend on normative constraint.

Chapter 1 explores the preconditions for representing objective temporal sequence, as outlined in the Second Analogy. I argue that Kant's notion of the "necessitation of the subjective order of perceptions" must be understood as a form of normative necessity, so representations of objective temporal sequence constitutively depend on normativity.

Chapter 2 continues the discussion of the Second Analogy by exploring the connection between causation and lawfulness. I argue that Kant holds that the concept of *<causation>* contains the notion of lawful connection. He therefore has sound reasons for asserting the Strong Causal Principle (that every event is produced according to a universal causal law) on the basis of the Second Analogy's argument.

Chapter 3 examines the role of schemata in Kant's theory of cognition. Assuming that schemata are rules for synthesis of the imagination, I argue that they should be understood as akin to maxims: mentally represented rules that bring our activities into contact with intersubjective normative standards. I argue that, by bringing synthesis under normative constraint, schemata enable intuitions to represent their objects as bearing 'kind'-properties.

Chapter 4 discharges the assumption that schemata are rules for synthesis of imagination, through close reading and criticism of alternative interpretations.

Chapter 5 examines Kant's views about animal minds and what they tell us about his theory of human cognition. I argue that he genuinely credits animals with intuitions of objects. Nevertheless, there are still good motivations for thinking that all human intuitions are produced by the understanding, and that it makes human and animal intuitions different in kind.

The Conclusion brings together material from the preceding five chapters to discuss the extent to which Kant endorses a 'normative theory of representation'.



# Preface

This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration. It is not substantially the same as any that I have submitted, or, is being concurrently submitted for a degree or diploma or other qualification at the University of Cambridge or any other University or similar institution. I further state that no substantial part of my dissertation has already been submitted, or, is being concurrently submitted for any such degree, diploma or other qualification at the University of Cambridge or any other University or similar institution, except that Chapter 3 is a descendent of an essay submitted for the degree of MPhil at the University of Cambridge. This dissertation does not exceed the word limit of 80,000 words. Chapter 1 is based on a paper forthcoming in the *European Journal of Philosophy*.



# Acknowledgements

The research for this dissertation was generously funded by the Arts and Humanities Research Council and the Leverhulme Trust.

Many thanks to everyone who has given me feedback on the work towards it. For Chapter 1, thanks to audiences in Cambridge and Berlin, and to Rachel Robertson, Tobias Rosefeldt and two anonymous reviewers for the *European Journal of Philosophy* for extensive comments on full drafts. Thanks also to Nina de Puy Kamp for proof reading. For Chapter 2, thanks to Senthuran Bhuvanendra, Rae Langton, Rachel Robertson and Paulina Sliwa for comments on full drafts. For Chapter 3, thanks to an audience in Cambridge. I also received helpful comments on an ancestor of the chapter from an audience at the University of Sussex, from Ralph Walker (who first got me interested in Kant) and from two anonymous MPhil markers at Cambridge. For Chapter 4, thanks to Senthuran Bhuvanendra and Rachel Robertson. For Chapter 5, thanks to audiences in Berlin and Cambridge, and to Anil Gomes and several anonymous reviewers for comments on full drafts.

I'm deeply grateful to the many brilliant people who have included me in their discussions of Kant over the years: the Kant Reading Group in Cambridge, the Klassische Deutsche Philosophie group at the Humboldt-Universität, Berlin, and the 'Sellars on Skype' group. Thanks especially to Senthuran Bhuvanendra, Michael Oberst, Rachel Robertson and Luz Seiberth for lots of fun hours furrowing our brows together.

Thanks to Richard Holton and Paulina Sliwa for getting me started on writing a PhD (even if I'm not submitting the one we expected). Thanks to Tobias Rosefeldt for hosting my visit to Berlin in 2017–8. Thanks above all to my supervisor Angela Breitenbach for helping me to improve every part of this dissertation and for guiding the process of running through and gathering together.

Many, many thanks to the truly excellent people who've been keeping me going while I've been writing and chin-scratching: in Berlin, Matthew, Seb, Lea, Luz and Miku; in Cambridge, the whole grad community but especially Karam, Wes, Katie, Li Li, Maxime, Matt, Cathy and Kyle, and also Tom, Sophie, Jonathan, Rudi and Mert; in London, Guy, Celia and Mat; in Huntingdon, Alex and Ariana; in Southampton, Granny B; in Halifax, Jonny, Eddie, Sam, Beef, JC and Emily; and seemingly wherever I happen to be, Mum, Dad, Bruce, Brommers and Nina. Thanks!





# Notes on Sources

References to Kant's works follow the standard conventions: citations of the *Critique of Pure Reason* follow the A/B pagination (referring to the first and second editions); citations of other works are in “(abbreviation volume:page)” form, referencing Kant's *Gesammelte Schriften*, vols. 1–29 (Berlin: de Gruyter, 1902–) and *Logik Vorlesung: Unveröffentlichte Nachschriften* (‘LV’) (Pinder, T. (ed), Hamburg: Felix Meiner, 1998). Abbreviations follow the Kant-Gesellschaft's conventions ([http://www.kant-gesellschaft.de/en/ks/e\\_HinweiseAutorenSiglen\\_neu.pdf](http://www.kant-gesellschaft.de/en/ks/e_HinweiseAutorenSiglen_neu.pdf)):

<i>Anth</i>	<i>Anthropologie in pragmatischer Hinsicht</i>
<i>Br</i>	<i>Briefe</i>
<i>GMS</i>	<i>Grundlegung zur Metaphysik der Sitten</i>
<i>GUGR</i>	<i>Von dem ersten Grunde des Unterschiedes der Gegenden im Raume</i>
<i>KpV</i>	<i>Kritik der praktischen Vernunft</i>
<i>KrV</i>	<i>Kritik der reinen Vernunft</i>
<i>KU</i>	<i>Kritik der Urteilskraft</i>
<i>Log</i>	<i>Logik</i>
<i>MAN</i>	<i>Metaphysische Anfangsgründe der Naturwissenschaften</i>
<i>MS</i>	<i>Die Metaphysik der Sitten</i>
<i>Prol</i>	<i>Prolegomena zu einer jeden künftigen Metaphysik</i>
<i>Refl</i>	<i>Reflexionen</i>
<i>RGV</i>	<i>Die Religion innerhalb der Grenzen der bloßen Vernunft</i>
<i>ÜE</i>	<i>Über eine Entdeckung, nach der alle neue Kritik der reinen Vernunft durch eine ältere entbehrlich gemacht werden soll</i>
<i>V-Anth/Mron</i>	<i>Vorlesungen Wintersemester 1784/1785 Mrongovius</i>
<i>V-Lo/Busolt</i>	<i>Logik Busolt</i>
<i>V-Lo/Dohna</i>	<i>Logik Dohna-Wundlacken</i>
<i>V-Lo/Wiener</i>	<i>Wiener Logik</i>
<i>V-Met-K 3E/Arnoldt</i>	<i>Ergänzungen Kant Metaphysik K3 (Arnoldt)</i>
<i>V-Met-L1/Pölit</i>	<i>Kant Metaphysik L1 (Pölit)</i>
<i>V-Met-L2/Pölit</i>	<i>Kant Metaphysik L2 (Pölit, Original)</i>
<i>V-Met/Mron</i>	<i>Metaphysik Mrongovius</i>
<i>V-Met/Volckmann</i>	<i>Metaphysik Volckmann</i>

*WDO*                                      *Was heißt sich im Denken orientieren?*

I also use two additional abbreviations:

*H*    *Rostocker Anthropologiehandschrift* (7:395–415)

*V-Lo/Hechsel*                      *Logik Hechsel* (in LV vol. 2)

Translations are based on *The Cambridge Edition of the Works of Immanuel Kant* (Cambridge: Cambridge University Press, 1992–2012), but I have frequently amended these or used my own translations, doing so tacitly.

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# Introduction

This dissertation consists of five chapters on diverse topics from Kant's theoretical philosophy. Each chapter is written to function as an article in its own right: each addresses a different question, rather than forming a step in one overall argument; each presents a self-contained argument, rather than presupposing familiarity with the others. Nevertheless, a number of interrelated themes link the chapters together.

The first theme, pursued in Chapters 1 and 2, concerns causality, particularly as it figures in Kant's Second Analogy of Experience. I focus on the importance of conceptual claims about the concept *<cause>*. In Chapter 1, this leads me to the conclusion that it is the inferential role of the concept *<cause>*, and the structure of epistemic normativity it brings with it, that is crucial for Kant's account of how we can perceive objective temporal sequences. Chapter 2 examines the connection between causation and lawfulness. Again, I argue that our focus should primarily be on how Kant understands the concept of *<cause>*. By looking at diverse works, but especially the *Groundwork of the Metaphysics of Morals*, I argue that Kant thinks that the lawfulness of causal connections is analytically contained in the concept *<cause>*. I use this finding to suggest a resolution to a long-running debate over the strength of Kant's conclusion in the Second Analogy.

The second recurring theme, pursued in Chapters 3 and 4, is Kant's notion of 'schemata': the "representation[s] of general procedure[s] of the imagination" (A140/B180) which supposedly mediate between concepts and intuitions. In recent years, Kant-scholars have done a lot to deepen our understanding of how concepts relate to intuitions and how the imagination is involved in cognition. Yet the vast majority of these authors have failed to incorporate schemata into their accounts. Chapter 3 takes as its starting point the idea that schemata are rules for synthesis of imagination. I argue for a novel account of how schemata make cognition possible, centring on the need for synthesis of imagination to be normatively constrained. Chapter 4 carries out the necessary exegetical work to discharge the assumption that schemata are rules for synthesis of imagination. In the process, I try to cut through some of the infamous obscurity of the Schematism chapter.

A third theme, in play throughout the whole dissertation, is the old issue of how to understand two of the central dualities in Kant's theory of cognition: the distinction between sensibility and understanding and the distinction between intuitions and concepts. Chapter 1 explores this by looking at why the understanding must be involved when we perceive

objective temporal sequences. Chapters 3 and 4 develop an account of the conditions under which an object given in intuition is classifiable under some concept. Along the way, those chapters offer an account of how rules provided by the understanding structure the imagination's synthesis of sensible material. Chapter 5 engages directly with the ongoing 'Nonconceptualism Debate', by critically engaging with the claim that Kant's views about animal minds support the independence of our intuitions from the understanding.

The fourth and final theme—and the overarching interest that has led me to explore the Second Analogy, schemata and the Nonconceptualism debate—concerns the normative constitution of representational contents. Kant has long been claimed as a forefather by modern proponents of “normative theories of representation”.<sup>1</sup> For the most part, this attribution has been made in the absence of sustained exegetical argument,<sup>2</sup> and it therefore remains highly controversial among Kant-scholars. My hope is that by engaging carefully with the details of Kant's position, I have been able to bring out more fully some of the nuances of his views than these existing discussions. I also hope to have provided a stronger evidential basis for this whole approach to Kant. Chapter 1 provides a detailed, textually informed argument for the conclusion that, when perceptions represent objective temporal sequences, this constitutively depends on synthesis being structured by epistemic norms. Chapter 3 argues for the broader conclusion that intuitions would lack ‘conceptual content’ if their production were not subject to normative constraints—intuitions produced by merely associative mental operations would *ipso facto* fail to represent objects as exemplifying kind-properties and objective temporal structures, and hence would not be classifiable under concepts. However, Chapter 5 shows that creatures whose mental activities are purely associative and not normatively structured are nevertheless capable of having mental representations of objects. As I argue in the Conclusion, this shows that Kant does not hold that all representational contents constitutively depend on normativity; he endorses a kind of ‘non-conceptual content’ that is not normatively constituted.

A kind of motto for my strongly exegetical approach to the themes of normativity and representation in Kant's theory of cognition is provided by Umberto Eco's claim, that:

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<sup>1</sup> See especially Sellars (1967), McDowell (1994) and Brandom (1994).

<sup>2</sup> Landy (2015) and Pollok (2017) explore the themes of representation and normativity in Kant with a more exegetical bent than the authors mentioned in the previous footnote. However, both have been criticized—to my mind rightly—for failing to offer arguments for their central exegetical assumptions (cf. Choi, 2017; Watt, 2017).

If it seems that Kant said something similar [to a theory which seems promising today], the task of a philosophical discourse is to take another look at Kant's point of departure and to see what group of problems he had been wrestling with, because his experience can teach us something too. We might still be the unwitting children of his errors (just as we are of his truths), and knowing this might help us avoid making analogous errors or thinking that we have just discovered something that he suggested two hundred years ago. (Eco, 1997, p. 7)





# Epistemic Normativity in Kant's Second Analogy

**Abstract:** In the Second Analogy, Kant argues that, unless mental contents involve the concept of causation, they cannot represent an objective temporal sequence. According to Kant, deploying the concept of causation renders a certain temporal ordering of representations necessary, thus enabling objective representational purport. One exegetical question which remains controversial is this: how, and in what sense, does deploying the concept of cause render a certain ordering of representations *necessary*? I argue that this necessitation is a matter of epistemic normativity: with certain causal presuppositions in place, the individual is obliged to make a judgment with certain temporal contents, on pain of irrationality. To make this normatively obligatory judgment, the subject must place her perceptual representations in a certain order. This interpretation fits Kant's text, his argumentative aims, and his broader views about causal inference, better than rival interpretations can. This result has important consequences for the ongoing debate over the role of normativity in Kant's philosophy of mind.

## 1. Introduction

This article has two aims: one narrow, one broad. The narrow aim is to resolve an interpretative dispute about Kant's Second Analogy. The Second Analogy gives an account of how we can perceive temporal sequences. However, disagreement remains over the details of the mental operations required for perception to have objective temporal content. In particular, it remains controversial how, according to Kant, deploying the concept of causation renders a certain subjective "order of perceptions" "necessary" (A193/B238); and with what kind of modality this subjective order of perceptions becomes necessary. Building on existing scholarship, I argue that Kant's account turns on the inferential role of the concept of causation. Moving beyond existing scholarship, I argue that this inferential necessity applies to the sub-doxastic level of perceptions as well as to judgments, and that the modality in question is that of epistemic normativity.

This narrow exegetical conclusion connects with a broader debate about the role of normative notions in Kant's philosophy of mind. Recent decades have seen numerous attempts to interpret the project of the *Critique of Pure Reason* (henceforth '*KrV*') as fundamentally normative in character. Allison argues that it "involves a radical reconfiguration of epistemic norms" and "serves as the epistemological counterpart of the shift from heteronomy to autonomy, which is [...] the essence of Kant's 'revolution' in ethics" (2004, p. xvi). O'Neill holds that, for Kant, a "critique of pure reason" is a "(quasi-)juridical or political task" (1989b, p. 9). McDowell reads Kant as attributing a normative status to all contentful mental representations, thereby giving a promising account of the relation between mind and world (1994). More recently, Pollok has argued that the central claim of Kant's theoretical philosophy is that "synthetic judgments a priori must be acknowledged as the fundamental norms for our mathematical and empirical cognitions" (2017, p. 2). These normative interpretations of Kant's project have primarily been advanced on the basis of general considerations about the *KrV*. Allison and O'Neill highlight broad structural similarities between Kant's project in the *KrV* and his practical philosophy. O'Neill also cites Kant's general methodological statements in the motto and prefaces to the *KrV*, and in its Doctrine of Method; as well as his obscure doctrine that practical reason has "primacy" over theoretical reason (*KpV* 5:119). O'Neill, McDowell and others also point to Kant's extensive use of juridical metaphors both in characterizing his own project and in distinguishing it from the non-normative systems of Locke and Leibniz; and McDowell makes much of an alleged comparison between the "spontaneity" of the understanding and the freedom of practical reason. Pollok's interpretation is also based on a normative reading of spontaneity (2017, p. 67) and on interpreting Kant's remarks about the "transcendental unity of apperception" as a claim about the normative "imputability" of judgments (2017, p. 64).

The problem with relying on such 'big picture' considerations is that they leave indeterminate the scope of normativity in Kant's project. Illustrating this dramatically, these normative interpretations differ widely over the breadth of normative import they find in *KrV*. O'Neill holds that only Kant's regulative principles and "maxims of judgment" are normative in character (1989b, p. 19), a position also endorsed by Mudd (2016, p. 12). Allison and Pollok hold that all of Kant's principles—the regulative principles of reason; the principles of the understanding; and even the principles of mathematics and science—are normative. Meanwhile, McDowell reads Kant as assigning a normative status to every intentional state, including intuitions. (Pollok appears also to hold that the "determination of sensibility" is

subject to normative constraint (2017, pp. 19, 224), but that this activity is inseparable from judgment (2017, pp. 19, 226).) To move forward, such approaches must be augmented with detail-oriented, bottom up investigations, which examine the viability of normative readings of particular aspects of Kant's philosophy.

Adding to the urgency of adopting a detail-oriented approach, Tolley (2006) has shown that there are tight limitations on the kinds of normative reading that are tenable. Focusing on Kant's logic, Tolley argues that the mind must be capable of deviating from a set of laws, if those laws are to serve as normative imperatives for the mind's operations. The devil is likely to lie in the detail of any normative reading, so proponents of normative interpretations must carefully specify the type of normativity in question and the relation between the normative standards and the actual operations of the mind. Existing work that exemplifies a detail-oriented approach includes O'Neill's discussion of the "maxims of common human understanding" (1989, pp. 25f.); Ginsborg's reading of Kant on empirical concept formation (1997); Mudd's account of the normativity of the regulative principles (2016); and Tolley's (2006), Lu-Adler's (2017) and Leech's (2017) discussions of normativity in Kant's logic. The latter four are especially clear in detailing the relation between normative rules and mental activities. The present article advances the debate over normativity in Kant's philosophy of mind in the same way: by offering a bottom-up account of the role of normativity in the mental activities discussed in the Second Analogy. My exegetical conclusion has important consequences for identifying the range of mental operations which, according to Kant, are subject to normative constraint. It shows that the mental operations responsible for "empirical cognition" must be subject to normative standards; and that this includes certain activities of the "power of the imagination", by means of which a temporal structure is imposed on sensible material (thus providing some support for views like McDowell's and Pollok's, according to which the "determination of sensibility" is subject to normative standards).

My argument runs as follows. Section 2 sketches the argument of the Second Analogy and locates the factor requiring further elucidation: the necessitation of a subjective ordering of perceptions. Section 3 presents the two major routes to explaining this notion—*causal* and *conceptual* accounts—and presents grounds for pursuing the latter. Section 4 provides compelling textual evidence for the existing view that it is the inferential role of the concept of cause that equips it for enabling objective temporal representation; and moves beyond existing scholarship to explain how this could impose necessity on a subjective ordering at the pre-judgmental level of perceptions. I argue that, on Kant's account, a subject who makes

the presuppositions that Xs cause ABs<sup>1</sup> and that X obtains is thereby “inferentially necessitated” to draw the conclusion that event AB occurs. Moreover, making the empirical judgment that AB occurs requires an act of synthesis in which the subject places her perceptions in a certain order, so this synthesis is also necessitated in the same sense. Section 5 clarifies the notion of “inferential necessitation”. The text of the Second Analogy and Kant’s characterizations of logical laws strongly suggest that causal presuppositions make it *normatively* necessary for the subject to judge that AB occurs, and hence to place her perceptions in a certain order. In contemporary parlance, the necessity of the “order of perceptions” is a matter of epistemic normativity. Section 6 deals with an objection to the claim that inference could be subject to normative standards. Section 7 concludes by tracing the consequences of the article’s findings.

## 2. The Argument of the Second Analogy

The Second Analogy examines the preconditions for representing objective temporal sequence. Let’s illustrate the problem with an example: Jones watches his beloved snowman melt. For this to happen, Jones must have a mental representation with three features: (1) it must represent the initial state, i.e. the snowman standing tall; (2) it must represent the subsequent state, i.e. the melted snowman; and (3) it must represent the initial state as preceding the subsequent state. The problem is to explain how a mental state could represent (3), i.e. the objective temporal relation between the two states.

Kant’s discussion begins with a negative point: representation of objective temporal relations cannot be achieved simply by the fact that the representations of the two states occur successively in the mind. Although Jones perceives the snowman standing tall at  $t_0$ ; and perceives the melted snowman at  $t_1$ , this mere successiveness is insufficient for the representation of objective temporal sequence, because successiveness is ubiquitous: “[t]he apprehension of the manifold of appearance is always successive” (A189/B234).<sup>2</sup> Perceptual contents occur sequentially in the mind even when they represent coexistent, enduring features, as when one successively sees the different parts of a large house (A190/B235, A192f./B237f.). Since perceptions are always successive, even when the states perceived in fact coexist, successiveness of perceptions cannot have the semantic significance of denoting

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<sup>1</sup> I follow Burge (2010) in using underlining to denote mental contents.

<sup>2</sup> Cf. B233, A190/B235, A198/B243 and A201/B246.

objective succession, as opposed to coexistence.<sup>3</sup> Kant emphasizes that it is the “arbitrariness” of the subjective sequence that renders it insufficient to carry objective representational purport: “The subjective sequence [...] alone proves nothing about the connection of the manifold in the object, because it is entirely arbitrary.” (A193/B238) This arbitrariness results from the fact that, according to Kant, temporal relations among perceptual contents are introduced by the faculty of imagination, which is capable of placing them in any order:

Connection [e.g. of “two perceptions in time”] is not the work of mere sense and intuition, but is here rather the product of a synthetic faculty of the imagination, which determines inner sense with regard to temporal relations. This [i.e. the imagination] [...] can combine the two states in question in two different ways, so that either one or the other precedes in time. (B233, cf. A201/B246)

To illustrate, let's return to Jones. At  $t_0$ , Jones has a perception of the snowman standing tall (A), and at  $t_1$  of the melted snowman (B). A necessary condition of Jones's representing the event of the snowman melting is that, while seeing the melted snowman, he is also conscious that previously the snowman was standing tall. This would, according to Kant, require Jones's imagination to reproduce the perceptual content A, placing it before the perception of B in Jones's inner sense. Yet the imagination has the power to freely combine sensory material. At  $t_1$ , when it is in possession of all the relevant sensory material, the imagination can thus produce either subjective ordering—A then B, or B then A—with equal ease. Unless something removes this arbitrariness of subjective order, the subjective order cannot have the semantic significance of denoting the objective order in which states succeed each other.

Kant's positive account is that when the subjective order of perceptions is a necessary order, it can have the significance of denoting an objective temporal relation. Under certain conditions, the subjective order is irreversible—not arbitrary but necessary. This enables the perceptual representation of objective sequence. Cases in which we represent events as happening are distinguished by the fact that there is only one order in which the perceptual contents can be arranged:

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<sup>3</sup> I hereby adopt a semantic rather than epistemic reading of Kant's point, *pace* Beck (1978) and Guyer (1987). Watkins (2005) argues that epistemic readings of the Second Analogy will inevitably result in circularity, a contention borne out by Van Cleve's (1999, pp. 128–32) attempt to repair Beck's epistemic reading.

If in the case of an appearance that contains a happening [i.e. an event] I call the preceding state of perception A and the following one B, then B can only follow A in apprehension, but the perception A cannot follow but only precede B. (A192/B237)

Kant illustrates this with the example of “a ship driven downstream” (A192/B237). In such cases, the subjective order is “determined”, “bound down” or rendered “necessary”, so that we are “necessitate[d] [...] to observe this order of the perceptions rather than another” (A196/B242; cf. A193/B238, A198/B243). This makes possible the representation of objective sequence. To enable objective temporal representation, something must render the subjective order of perceptions necessary.

This brings us to our central exegetical questions. What does it take for a subjective order of perceptions to be rendered necessary? What kind of mental operations are required, and how do they impose necessity on the subjective order? Furthermore, what kind of necessity is thereby imposed? My aim is to provide detailed answers to each of these questions.

Before proceeding, I will lay down a desideratum for the adequacy of any interpretation. Kant's discussion of objective temporal representation forms part of his argument for a synthetic a priori principle, viz. the Causal Principle (i.e. that, within the domain of appearances, every event has a cause). Therefore, we should strongly prefer interpretations which fit Kant's account of the necessitation of the subjective order into an internally coherent argument for the Causal Principle.

### **3. *Causal vs. Conceptual Interpretations of the Necessitation of a Subjective Order***

I now present the two families of interpretation that have dominated the literature, vis-à-vis the necessitation of the subjective order. Note that much of the work on the Second Analogy avoids taking a stand on the nature of this necessitation, focusing instead on the relationship between perceiving particular events and discovering specific causal laws (e.g. Buchdahl, 1969b; Friedman, 1992a) or whether Kant's conclusion has ontological or merely epistemological import (e.g. Guyer, 1987, ch. 10; Watkins, 2005, ch. 3) without detailing the theory of mental operations underlying Kant's discussion. The work which does give an account of the necessitation of a subjective order falls neatly into two camps. *Causal* readings hold that it is the causal relations between the perceived states and the subject's perceptions that fix a certain subjective order of perceptions as necessary. *Conceptual* readings hold that

it is the conceptual role of the concept of causation which imposes necessity on an order of perceptions. My aim in this section is to justify pursuing a *conceptual* reading by exhibiting grounds for scepticism about *causal* readings. Readers already convinced that the necessity of the subjective order arises due to the conceptual role of the concept of cause may skip to Section 4.

The most famous among *causal* readings is Strawson's (1966, pp. 133–140). Strawson argues that the causal dependence of perception upon worldly states, along with some modest assumptions about the causal chains involved, entails that, whenever we perceive an event, the subjective order of perceptions is causally necessary.<sup>4</sup> However, he holds that the only way to get from this result to the Causal Principle is via a “non-sequitur of numbing grossness”. According to Strawson, Kant simply conflates the causal necessitation of the subject's perception of the event with the causal necessitation of the event itself. The same charge of non sequitur is found in the *causal* readings of Lovejoy (1906), Pritchard (1909, pp. 288–91), Broad (1978, p. 168) and Walker (1978, p. 100). In accordance with the aforementioned desideratum, we should strongly prefer alternative readings if they are able to provide an interpretation with greater internal coherence.

Beck's (1978) *causal* reading seeks to avoid saddling Kant with a non sequitur. Beck argues that we must postulate causal connections between observed events, not just between those events and our perceptions, in order to recognize their objective order. His reconstruction runs as follows:

1. Our subjective order [A then B] fails to differentiate between two objective orders—AB and BA. To recognize<sup>5</sup> objective order AB, we need some way of ruling out the possibility that B precedes A.
2. Supposing that A causes B is necessary and sufficient for ruling out the possibility that B precedes A (1978, p. 133), because “the schema of the concept [of causation] is [AB]-irreversibly” (1978, p. 151).
3. Therefore, we can rule out the possibility that B precedes A if and only if we suppose that A causes B.

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<sup>4</sup> Strawson describes the subjective order as being a matter of “logical” rather than “causal” necessity (1966, p. 136) but since it is contingent on facts about the causal processes which produce perception, it is more accurately classified as causal necessity. Cf. Van Cleve (1973, p. 82).

<sup>5</sup> I use the term “recognize” in order to gloss over the fact that Beck gives the argument an epistemic rather than semantic reading. Cf. fn. 3.

4. Therefore, we can recognize the objective order AB if and only if we hold that A causes B.

This is a definite advance on Strawson: from (4) it follows that all recognizable temporal sequences are causal sequences—a promising step towards proving the Causal Principle. However, Beck's reconstruction is inadequate in other respects. One glaring problem is that (2) is indefensible. That events of type A cause events of type B does not entail that B cannot precede A. Consider an oscillating system (e.g. a pendulum), in which one half of the cycle (a swing to the left) gives rise to an event qualitatively identical to the one that caused it (a swing to the right).<sup>6</sup> Perhaps Beck's reading can be rescued by reading A and B as referring to event-tokens rather than -types. It seems doubtful that this could be Kant's meaning given his frequent insistence that what is required is a causal "rule" (e.g. A193/B238). Moreover, there are further interpretative problems which this would not fix. Beck's reconstruction centres on a model in which we determine the order of two events by identifying a causal relation between them; in contrast, the dominant focus of Kant's treatment is the case in which we identify an objective change, i.e. a single event, due to its being caused by some other state or event (cf. Guyer, 1987, p. 240). Therefore, we should not be satisfied with Beck's reconstruction.

Van Cleve (1999, pp. 128–32) attempts to repair Beck's reconstruction by adopting the model of a cause triggering a change from A to B, rather than a causal relation between A and B, and by revising the notion of "irreversibility" at issue. However, in his revised reconstruction, it is the conceptual role of causal presuppositions, rather than *de facto* causal relationships, which imposes the required structure of necessity on the subjective order. Therefore, Van Cleve in effect abandons the *causal* reading in favour of a *conceptual* approach.<sup>7</sup>

No attempt to explain the necessitation of a subjective order as arising from causal relations between the perceived events and the subject's perceptions has succeeded in finding an internally coherent argument for the causal principle, despite repeated attempts.<sup>8</sup> This is in sharp contrast to *conceptual* readings, which have found much to endorse in Kant's argument. According to *conceptual* readings (e.g. Allison, 2004; Longuenesse, 2005; Melnick, 1973), when Kant speaks of the order of perceptions as being irreversible, this is not

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<sup>6</sup> Cf. Van Cleve (1999).

<sup>7</sup> In any case, Van Cleve argues that the argument as he reconstructs it is not cogent.

<sup>8</sup> Further grounds for pessimism about 'causal necessitation' readings are provided by Van Cleve's (1973, pp. 84–7) criticism of Dryer.



a matter of causal necessitation of the acts of perceiving. Instead, it is an upshot of the conceptual role of the concept of cause. On this view, the mental operation of applying the concept of cause imposes necessity on the temporal order of one's perceptions.

Recent versions of the *conceptual* reading (Allison, 2004, p. 252; Longuenesse, 2005, p. 241) have converged on a coherent reconstruction of Kant's argument for the Causal Principle:

1. To represent an event, the subjective order of perceptions must be irreversible.
2. For the subjective order of perceptions to be irreversible, they must be subsumed under the schema of causality.
3. Therefore, application of the schema of causality is a necessary condition for the experience of an event.
4. Therefore, restricting the domain to appearances (i.e. objects of possible experience), every event has a cause.

This reconstruction is well supported textually. Longuenesse (2005, pp.253–8) identifies five expositions of this form of argument in the Second Analogy chapter, on the basis of close reading.

It is a considerable strength that *conceptual* readings allow for a highly coherent reconstruction, well supported by the text. However, thus far they have been less successful in spelling out the nature of the necessitation of the subjective order. Allison provides little explanation, simply stating that necessity is introduced when we “subsume [perceptions] under [...] the schema of causality” (2004, p. 252). Longuenesse gives more explanation, but recent scholarship has deemed her account to be “less than pellucid” (Osborne, 2006, p. 420). Therefore, in what follows, I will pursue a *conceptual* reading, with the aim of explaining fully how the concept of cause generates this necessitation and what form of necessity arises.

## **4. Subjective Necessitation as Inferential Necessitation**

Our aim is to understand how deploying the concept of cause imposes necessity on the subjective order of perceptions. I begin by looking for textual clues.

### **4.1 Textual Evidence**

The Second Analogy chapter contains five expositions of Kant's argument for the Causal Principle. These share a common argumentative structure, but Kant adds various pieces of additional information with each attempt. In particular, the second and third expositions of

the argument<sup>9</sup> provide more detail about how the mind operates in cases where it succeeds in representing an event or objective sequence.

If, therefore, we experience that something happens, then we always presuppose [*voraussetzen*] that something else precedes it, which it follows in accordance with a rule. [...] [O]nly under this presupposition [*Voraussetzung*] alone is the experience of something that happens even possible. (A195/B240)

As soon as I perceive or presuppose [*voraus annehmen*] that there is in this sequence a relation to the preceding state, from which the representation follows in accordance with a rule, I represent something as an occurrence. (A198/B243)

In both passages, Kant states that cases of successful event-representation are distinguished by the subject making a certain sort of “presupposition”. This presupposition (i) concerns the existence of some “preceding state”; and (ii) there is “a rule” such that, given the preceding state, the event must follow. When we compare (ii) with Kant’s analysis of the concept of causation, we see that it is simply the presupposition that the preceding state causes the event. Kant describes the “schema of cause” as “the real upon which, whenever it is posited, something else always follows. It therefore consists in the succession of the manifold insofar as it is subject to a rule” (A144/B183). (Kant equates the term “succession” with “change” (B233), which the First Analogy has shown to be equivalent to “event”.) So what Kant is saying is that in order for a subject to represent the event AB, she must presuppose (i) that some state X obtains, and presuppose the causal rule (ii) that Xs cause ABs.<sup>10</sup> For example, in order for Jones to represent the snowman melting, Jones must presuppose that some state obtains with respect to the snowman, and that this kind of state causes such objects to melt. It might be that Jones already believes a causal rule, such as that sunshine causes objects made of snow to melt, and judges that the sun is shining on the snowman on the basis of perception. (This explains Kant’s phrasing, “perceive or presuppose”, in the third exposition (A198/B243).) But Kant also allows the possibility that the subject does not know what state causes the event (A199/B244), in which case the content of Jones’s presuppositions would be

<sup>9</sup> Second exposition = A194f./B239f.; third exposition = A198-201/B243-6. I follow Longuenesse’s numbering (2005, pp. 253–8).

<sup>10</sup> I set aside the fraught question of how Kant gets from causal rules to universal causal laws. In my view, Kant holds that the concept of causation analytically entails causation according to universal laws (B5, A91/B124, *G* 4:446, *KU* 5:195, *RGV* 6:35). Cf. Chapter 2.

that some unknown state obtains with respect to this snowman and the causal rule that that type of state causes snowmen to melt.<sup>11</sup>

How do subjects select specific causal presuppositions, and what is their justification in doing so? Kant's answer comes not in the Second Analogy but in his account of the "regulative principles" in the Appendix to the Transcendental Dialectic and the Introduction to the *Critique of Judgment*. Kant gives a normative account rather than a description of our actual hypothesis-forming process (*KU* 5:182). He provides a transcendental argument for our entitlement to select more "unified" theories, e.g. by preferring theories that describe a world governed by a smaller number of more general causal laws (A650/B678; *KU* 5:182).<sup>12</sup> Kant insists (A651/B679) that we do not antecedently perceive events to which we try to fit our hypotheses. Instead, the very process of converting sensory material into representations of events must take place against a background of framing causal hypotheses, which always remain subject to later revision. Both in selecting and in revising our bodies of causal hypotheses and judgments about events, we tend to prefer simpler, more unified theories, and are entitled to do so. A full understanding of Kant's account of hypothesis-formation would require arbitrating the debate over the move from causal rules to universal laws: do subjects begin with mere causal rules which are only later replaced by universal laws, or does the Second Analogy already entail a subject forming hypotheses about universal laws? I lack space to resolve this here (cf. fn. 10; Chapter 3).

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<sup>11</sup> Must the subject's causal assumptions match the physical laws which Kant (in *Metaphysical Foundations of Natural Science*) argues are transcendently necessary? In my view, Kant holds that all subjects' perceptions necessarily conform to these laws and that the transcendental philosopher can discover this fact and these laws by reflecting on the preconditions of experience (as Kant does in *Metaphysical Foundations of Natural Science*). Nevertheless, this is compatible with many subjects failing to believe those laws, or even believing divergent laws, e.g. Aristotelian physics. Therefore, Kant does not hold that subjects always make causal assumptions that are in line with the physical laws derived in *Metaphysical Foundations of Natural Science* (though any assumptions contrary to them will in fact be false).

<sup>12</sup> These sections deal most explicitly with reason's attempts to unify the judgments and concepts delivered by the understanding, but Kant also writes that the "regulative use" of the "transcendental ideas" "direct[s] the understanding to a certain goal respecting which the lines of direction of all its rules converge at one point" (A644/B672) and that "without ["the law of reason to seek unity"] we would have [...] no coherent use of the understanding" (A651/B679). In other words, the drive towards unity is operative at the initial stage of forming causal hypotheses (examples of which are given at A646/B674 and A662f./B690f.), not just the subsequent stage of revising these in pursuit of systematicity.

We now have a partial account of the mental activities that enable the representation of objective temporal sequence: to represent an event AB, the subject must presuppose X and Xs cause ABs. However, further clarification is still needed. How and in what sense do these causal presuppositions render a certain ordering of perceptions necessary?

## 4.2 Causation and Hypothetical Inference

Some commentators have suggested that the inferential role of cause is what equips it to enable temporal representation. Melnick emphasizes that “a causal law is precisely a rule that allows us, on the basis of features of appearances, to conclude to a certain temporal ordering of appearances” (1973, p. 91). Longuenesse (2005) espouses a similar view, though some critics have found her proposal hard to decipher (Osborne, 2006, p. 420). This subsection defends the view that the inferential role of cause is crucial, while Section 4.3 goes beyond existing proposals to explain how this relates to the pre-judgmental level of the ordering of perceptions.

There is considerable textual evidence that it is the logical structure which the concept of cause embodies and the form of inference it supports which is decisive. Kant draws a close connection between the concept of causation and the logical structure of the hypothetical conditional. In his derivation of the Table of the Categories (A80/B105) from the Table of Judgments (A70/B95), the pure concept of cause and effect corresponds to the logical structure of the “hypothetical” proposition (A70/B95, A73/B98). Kant’s hypothetical conditional expresses a non-truth-functional “connection [*Verknüpfung*]” between its antecedent and consequent, which Kant calls “consequence [*Consequenz*]”. When the antecedent holds, the consequent also holds, and the former is the “ground [*Grund*]” of the latter (*Log* 9:105f.; cf. Longuenesse 2005, pp. 236–8). According to Kant, causal judgments are a species of hypothetical judgments. Therefore, to make the causal judgment that X causes Y is *a fortiori* to make the hypothetical judgment that if X, then Y (where this involves a non-truth-functional grounding connection).

In its schematized form, the concept of causation adds further spatio-temporal content to this logical structure. Specifically, the antecedent is restricted to “the real” (A144/B183), i.e. states of objects “in time” (A143/B182); the consequent is restricted to temporal “successions” (A144/B183), which Kant equates with “changes” or “events” (see above); and the grounding connection between them (i.e. “consequence”) is restricted to a certain

direction in time, such that the event “follows” the triggering state (A144/B183).<sup>13</sup> As with all categories, this process of schematization leaves the “logical meaning” of the concept of cause intact—it in no way lessens the connection between causal judgments and hypothetical judgments. Schematization merely adds extra content, which “restricts” the sphere of possibilities falling under the concept, whilst enabling the application of these pure concepts to objects of experience (A146f./B185f.).

Given that causal judgments embody hypothetical conditionals, it follows that they support a kind of inference, namely the hypothetical syllogism. In the *Jäsche Logic*, Kant describes how hypothetical conditionals support two valid forms of inference: *modus ponens* and *modus tollens* (9:106). As one would expect given the intimate relation between causation and the hypothetical conditional, Kant frequently associates causal judgments with just these kinds of inference. He writes that the “concept of cause” is the concept of “something that allows an inference to the existence of something else” (A243/B301); that it is “required” for us to be able to “infer a consequence from the existence of given determinations of things” (*KpV* 5:51, Kant’s emphasis); and that “what the concept of cause says” is “that one thing [is] such that, if it is posited, a second thing must thereby necessarily be posited” (*Prol* 4:257; cf. *G* 4:446). He equates the applicability of the “concept of causality” with the viability of inferences of the form “because one thing A is posited, another thing B must also necessarily be posited” (*KpV* 5:53).<sup>14</sup> Commenting on the *Prolegomena* passage, Longuenesse notes that Kant’s phrasing “reproduces, almost word for word, Christian Wolff’s description of the inference in *modus ponens* in a hypothetical syllogism”, viz. “If, in a hypothetical syllogism, the antecedent is posited, the consequent must also be posited” (2005, p. 235).

Kant’s view is that the judgment that Xs cause ABs involves the same logical content that is involved in the hypothetical conditional if X, then AB. *A fortiori*, this causal judgment is subject to the same inference-rules as the hypothetical conditional. In particular, it supports an inference in *modus ponens*: if a subject believes that Xs cause ABs, and now posits that X obtains, then she “must necessarily posit” that AB occurs.

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<sup>13</sup> Kant holds that most effects start as soon as their causes are present, but that since events have a temporal duration, they nevertheless “follow” their causes in an important sense (A202f./B247–9).

<sup>14</sup> Kannisto (2017, pp. 510–2) argues that causal inferences are not possible until the move from causal rules to universal causal laws has been made. The passages cited, which demonstrate that for Kant the mere applicability of the concept of cause supports hypothetical inferences, suggest either that Kannisto is wrong to ascribe this view to Kant or that the concept of cause entails lawful causation (cf. fn. 10).

What are the consequences of this for our understanding of the Second Analogy? We can now clearly see the relation between the causal presuppositions identified above and the representation that AB occurs. The presuppositions that Xs cause ABs and that X obtains serve as the premises of a hypothetical syllogism, of which the judgment that AB occurs is the conclusion. This reading is supported by Kant's use of the language of a hypothetical syllogism in *modus ponens* in the fourth exposition<sup>15</sup> of the argument of the Second Analogy: "something [i.e. some state] [...] precedes, and when this is posited, the other [i.e. the event] must necessarily follow." (A201/B246) Any subject who assents to those presuppositions must draw the conclusion that AB occurs. To capture Kant's language of what the subject "must necessarily posit", we can say that it is "inferentially necessary" for a subject who makes these presuppositions to draw the conclusion that AB occurs. Returning to our example, now that Jones believes (i) that the sun is shining on this snowman and (ii) that sunshine causes snowmen to melt, it is inferentially necessary for him to draw the conclusion (iii) that this snowman melts.

We now have a well motivated account of how the conceptual role of cause imposes a kind of necessity on the subject's mental activities. When she deploys the concept in certain causal presuppositions, it becomes inferentially necessary for her to judge that a certain event has occurred. We are well on our way to a fully explicit account of how the concept of cause can render the subjective order of perceptions necessary, but some questions still remain. Firstly, how does the inferential necessitation of making a judgment relate to the ordering of perceptions (Section 4.3)? Secondly, what kind of modality is at stake in this notion of inferential necessity (Section 5)?

### ***4.3 Inferential Necessitation of a Subjective Order of Perceptions***

In the previous subsection, I argued that the causal presuppositions X obtains and Xs cause ABs make the judgment that AB occurs inferentially necessary. Does this suffice for rendering the subjective order of perceptions necessary? What we have said so far has dealt only with the doxastic level of "judgments [*Urteile*]", while Kant's argument seems to turn on the sub-doxastic level of "perceptions [*Wahrnehmungen*]". Kant holds that inferences always operate at the level of judgments (*Log* 9:114), so it is not obvious how the inferential role of these causal presuppositions could relate to the level of "perceptions". My task in this

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<sup>15</sup> Fourth exposition = A201f./B246f.. Cf. fn. 9.

subsection is to explain how the inferential necessitation of a judgment translates into the necessitation of a subjective order of perceptions.

One possibility is to revise our interpretation of the argument, taking Kant's subject matter to be the necessitation of judgments, rather than the necessitation of an ordering of perceptions. On this reading, having explained the inferential necessity of judging that AB occurs, our interpretative task would be complete.<sup>16</sup> There is some support for this approach: Kant's stated aim in the Analogies of Experience is to establish claims about "empirical cognition" (B218-9; *Prol* 4:310), which is usually taken to imply that he is operating at the level of judgments. Nevertheless, the text of the Second Analogy makes it clear that the necessitation of the pre-judgmental activity of "apprehension" is central to Kant's concerns. Kant's discussion turns on the order of "perceptions" being irreversible, not just on certain judgments being necessary (A192/B237); on the "subjective order of apprehension" and with the subjection of apprehension to a rule (A193/B238; A195/B240; A200/B245). Moreover, Kant holds that the result of the Second Analogy is "the formal condition of all perception" (A199/B244). To deny that Kant is concerned with the necessitation of a subjective order of perceptions, we would have to interpret him as continually misstating his point.<sup>17</sup> Furthermore, a key conclusion of the Transcendental Deduction was that "all synthesis, through which even perception itself becomes possible, stands under the categories" (B161). Accordingly, it is natural to expect implications for the synthesis of apprehension within the System of Principles.<sup>18</sup> Unless it proves completely impossible to find one, we should seek an explanation of how the inferential necessitation of a judgment brings with it the necessitation of a subjective order of perceptions.

The key to understanding this connection is Kant's view that empirical judgments involve the synthesizing of perceptions: "[e]xperience is an empirical cognition, i.e., a cognition that determines an object through perceptions. It is therefore a synthesis of perceptions [...] [and] contains the synthetic unity of the manifold of perception in one consciousness" (B218, cf. A764/B792). Kant holds that judgments about specific worldly states, objects and events, such as the judgment that AB occurs, must be "empirical cognitions", which, as this passage explains, means that they must involve the synthesizing of

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<sup>16</sup> For independent reasons, Allison takes this route (2004, p. 230).

<sup>17</sup> Commenting on Kant's use of the phrase "rule of apprehension" (A191/B236), Allison accuses Kant of being "misleading" (2004, p. 234). However, he seems to underestimate the frequency of passages that jar with his reading.

<sup>18</sup> Thanks to an anonymous reviewer for this point.

sensible material. This is an upshot of Kant's view that the representations of the understanding cannot have "relation to an object" unless they stand in the right relation to sensibility: "we cannot cognize any object [...] except through intuitions that correspond to those concepts." (B165; cf. A50/B74) Without taking a stance on what kind of content intuitions have or what is required for an intuition to "correspond" to a concept, we can say that for the "empirical cognition" that AB occurs to be possible, the subject must produce a perception which corresponds to it, by synthesizing sensory material.

What kind of "synthesis of perceptions" might be required to produce a perception corresponding to the judgment that AB occurs? Presumably, it would consist of a perception of A and a perception of B. These perceptions would have to be put together into a temporally structured whole, with the temporal dimension provided by the form of inner sense. In other words, to produce a perception corresponding to the judgment that AB occurs, the subject would have to "place" a perception of A before a perception of B. This act of arranging perceptions into a certain form would be part of the "synthesis of apprehension", carried out by the "power of imagination". In our example, Jones's "power of imagination" would "place" a perception of the snowman standing tall prior to a perception of the melted snowman, on the canvas provided by the *a priori* intuition of time. This picture fits well both with Kant's descriptions of the imagination's synthesizing activities prior to the formation of judgments (A98–103, B151–6, B160f.); and with Kant's repeated descriptions in the Second Analogy of a "synthesis of apprehension" in which the "power of the imagination" "places" or "connects perceptions" (B223) in a certain "order" (B223; A193/B238).<sup>19</sup>

Given that this activity of *placing the perception of A before the perception of B* is required for the activity of *judging that event AB occurs*, it is intuitively plausible that any

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<sup>19</sup> Does this view of the imagination's activities commit me to a "conceptualist" interpretation of Kant? No. The account does not deny that the content of intuitions includes features which cannot be represented by concepts (cf. Allais, 2009; Tolley, 2013). Nor does it claim that individual intuitions would be impossible without acts of synthesis (cf. McLear, 2014; Tolley, 2013). Nor does the account deny that temporally extended sequences of intuition could be produced without a contribution from the understanding—intuitions could be placed in a temporal sequence by merely associative processes (cf. Hanna, 2005). However, I do read Kant as insisting that those associative processes would not produce perceptions with *objective* temporal contents, an interpretation which seems obligatory for understanding the Second Analogy. The account is therefore not entirely neutral about the relation between sensibility and understanding: I maintain that perceptions produced in the context of activities that also implicate the understanding can have a certain kind of content which perceptions produced independently of the understanding would lack. However, this thesis is quite compatible with all but the most extreme of non-conceptualist positions.



forms of necessity applying to the latter would also apply to the former. If a subject must *judge that AB occurs*, she must *a fortiori* perform the mental activities constitutive of making that judgment. Now, as argued in the previous subsection, when the subject makes presuppositions of the form X and Xs cause ABs, this makes it inferentially necessary for the subject to *judge that event AB occurs*. Therefore, it follows that making those presuppositions also makes it inferentially necessary for the subject to *place the perception of A before the perception of B*.<sup>20</sup> When this act of synthesis is a constituent part of forming a judgment, and the judgment in question is one that is inferentially necessary, the synthesis is not an arbitrary act stemming from idiosyncrasies of the subject. Rather, it is necessary in just the same sense that the judgment itself is necessary. The presuppositions that render the judgment inferentially necessary also render the subjective order of perceptions inferentially necessary: the activity of placing the perceptions in that order becomes something that the subject must do, given her assent to the premises of the causal inference.

We now have a full account of the mental activities which, according to Kant, render the representation of objective temporal order possible: the subject makes certain causal presuppositions; these presuppositions render it inferentially necessary for the subject to draw the conclusion that a certain event occurs, and thereby render inferentially necessary the particular subjective order of perceptions that is required for drawing that conclusion. In the next section, we look more closely at the central term in this account, namely inferential necessitation.

## 5. Inferential Necessitation is Normative Necessitation

In what sense, for Kant, *must* a subject assent to the conclusion of a causal inference for which she believes the premises? In what sense *must* she place her perceptions in the subjective order that is “inferentially necessary”? This section argues that the ‘must’ is normative. The necessitation of judging that AB occurs, and of performing the acts of synthesis constitutive of making that judgment, is a matter of epistemic normativity.

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<sup>20</sup> If inferential necessitation behaves like an alethic necessity operator, then this is a consequence of the Distribution Axiom:  $\Box J$  (“Judging AB is inferentially necessary.”),  $\Box(J \rightarrow P)$  (“In order to judge AB, one must place A before B.”),  $\Box(J \rightarrow P) \rightarrow (\Box J \rightarrow \Box P)$  (an instance of the Distribution Axiom)  $\vdash \Box P$  (“Placing A before B is inferentially necessary”). Alternatively, if inferential necessitation behaves like a deontic obligation operator (as I will argue), then the same follows by an analogue of the Hypothetical Imperative: One ought to judge AB. Placing A before B is a necessary means to judging AB. If one ought to  $\phi$ , then one ought also to carry out the means necessary for  $\phi$ -ing. Therefore, one ought to place A before B.

“Normativity” is not a term used by Kant (though he does use the term “norm” in the sense of “model or guideline for assessment”<sup>21</sup>); so let me first pre-empt the worry that it is anachronistic to claim that normativity plays a central role in the Second Analogy. Normative facts or statements are those which deal in ‘oughts’, ‘shoulds’, reasons, duties, etc. In several contexts throughout his critical philosophy, Kant draws distinctions between what, in modern parlance, we can call the normative and the non-normative. Consider the contrast between “natural philosophy” and “moral philosophy” presented in the *Groundwork*: “the first [determines certain laws] as laws in accordance with which everything happens, the second [determines certain laws] as laws in accordance with which everything ought to happen” (4:387f.). Another such contrast occurs when Kant introduces the “maxims of the power of judgment”: “they do not say what happens, i.e., in accordance with which rule our powers of cognition actually perform their role and how things are judged, but rather how they ought to be judged.” (KU 5:182) Other cases in which Kant draws this distinction include his remarks about the nature of logic (see below); the kind of necessity to which aesthetic judgments are subject (KU 5:239); and perhaps (though this is controversial) the famous distinction between “questions about what is lawful (*quid juris*)” and “[questions] which concern the facts (*quid facti*)” (A84/B116, amended), i.e. the distinction between the way we use certain concepts and the way that we would be “justified” to use them (A84/B116). The modern term “normativity” gives us a useful way to designate one side of Kant’s contrast, picking out claims concerning what we “ought” to do or would be “justified” in doing, rather than what merely is.

I now explain the proposal that causal presuppositions normatively necessitate a judgment and *a fortiori* an ordering of perceptions. What difference do the causal presuppositions make, vis-à-vis the judgment that AB occurs? One important factor is that a subject who believes that X and that Xs cause ABs has conclusive reason to believe that AB occurs: those presuppositions *justify* that conclusion. The proposal is that for the judgment to be inferentially necessitated is for it to be justified in this way.

Is there any basis for ascribing this kind of view to Kant? The first piece of evidence is that Kant explicitly talks in terms of “justification” within the Second Analogy:

[A] rule is always to be found in the perception of that which happens, and it makes the order of perceptions that follow one another (in the apprehension of this

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<sup>21</sup> KU 5:239; Log 9:15. See also Pollok (2017, p. 2).

appearance) necessary. [...] This connection must therefore consist in the order of the manifold of appearance in accordance with which the apprehension of one thing (that which happens) follows that of the other (which precedes) in accordance with a rule. Only thereby can I be *justified* in saying of the appearance itself, and not merely of my apprehension, that a sequence is to be encountered in it, which is to say as much as that I cannot arrange the apprehension otherwise than in exactly this sequence. (A193/B238, emphasis added)

Here, Kant begins by repeating the claim that the representation of events is only possible when the “order of perceptions” is rendered “necessary”. Next, he asserts that this necessity can only be created by positing a causal connection between a state “which precedes” and the event itself. Finally, Kant explains that the difference made by positing this causal relation is that the subject is “thereby justified” in making the claim that an event has occurred. Explicitly, it is the epistemic or justificatory role of the causal presuppositions that is crucial in rendering the “order of perceptions” “necessary”.

This language of “justifying” is repeated in his second exposition of the argument:

If, therefore, we experience that something happens, then we always presuppose that something else precedes it, which it follows in accordance with a rule. For without this I would not say of the object that it follows, since the mere sequence in my apprehension, if it is not, by means of a rule, determined in relation to something preceding, does not *justify* any sequence in the object. (A195/B240, emphasis added)

Without making the causal presuppositions, Kant writes, the subject would not be justified in making a claim that there is a “sequence in the object”, i.e. an objective order of states. The difference that the presuppositions make is a matter of what they “justify”. These passages strongly support the conclusion that the causal presuppositions’ “necessitation” of a particular ordering of perceptions is a matter of epistemic normativity.

The same conclusion is also supported by Kant’s apparently normative conception of the laws of logic. As argued in Section 5, the necessitation of a judgment by causal presuppositions turns on the inference-rules governing the hypothetical conditional. In the *Jäsche Logik* we find the following characterization of the rules of logic:

Logic is [...] a science of the *correct* use of the understanding and of reason in general, not subjectively, however, i.e., not according to empirical (psychological)

principles of how the understanding does think, but objectively, i.e., according to principles a priori for how it *ought* to think. (9:16, amended, emphasis added)

In logic [...] the question is not about [...] how we do think, but how we *ought* to think ... In logic we do not want to know how the understanding is and does think and how it has previously proceeded in thought, but rather how it *ought* to proceed in thought. (9:14, emphasis added)

In both passages, Kant draws the normative/non-normative distinction and firmly locates the laws of logic on the normative side. Tolley has raised doubts over whether these remarks about the nature of logic represent “Kant’s ‘considered’ or ‘mature’ (‘Critical’) position” (2006, p. 398). (Tolley also raises substantive concerns, which are discussed below in Section 6.) However, the hypothesis that these remarks are remnants of a pre-Critical view is belied by the existence of similar remarks in lecture-transcripts from the Critical period:

We can divide the laws of our understanding in the following way[:]

1. Rules for how we think.
2. Rules for how we ought to think.

Sometimes we think completely wrong-headedly. This use can never agree with the rules. This is the misuse of the understanding and is excluded here. Logic teaches the latter [i.e. “rules for how we ought to think”], namely, how to use the objective rules of our understanding. (*V-Lo/Wiener* 24:791)

Logical rules are not ones according to which we think, but according to which we ought to think. (*V-Lo/Dohna* 24:694)

Kant holds that we often fail to think in accordance with the logical laws laid out in the course of the lectures. But the principles of logic are not descriptions of how we happen to think. Rather, they constitute standards for how we ought to think. Kant links this normative conception of logic with his notion of “critique”:

[Logic] is useful and indispensable as a *critique of cognition*, however, or for passing judgment on common as well as on speculative reason, not in order to teach it, but only to make it *correct* and in agreement with itself. (*Log* 9:20, Kant’s emphasis; cf. *Log* 9:15, *Log* 9:16, *V-Lo/Wiener* 24:792, *V-Lo/Dohna* 24:694f.)

Far from being a remnant of Kant's pre-Critical thought, his normative conception of logic is intimately connected with his mature conception of philosophy as providing a critique of our mental faculties. The procedure appears to be this: first, we reflect on the nature of the understanding and identify principles that are universally valid, rather than being plausible only due to some bias that we happen to have.<sup>22</sup> Next, we use this body of principles as a "doctrine" for "critiquing" the actual patterns of thought of ourselves and others. This step may be supplemented by empirical discoveries about what errors we are most prone to make. Kant terms this empirically informed project "applied logic" (A53/B77, *Log* 9:18). We would therefore be unjustified in taking Kant's remarks on the normativity of logic to be a remnant of his pre-Critical views. Rather, we should try to accommodate Kant's mature characterization of logic as another facet of his critical project, in which reflecting on the nature of our faculties provides us with certain epistemic standards, which can then be used to root out error. Kant holds that the principles of logic, and *a fortiori* the rules of hypothetical inference, are normative in character, providing standards of "how we ought to think" (*Log* 9:14).

To sum up the argument of this section, we have found significant textual evidence that inferential necessitation is a form of epistemic normativity. This evidence was found both in the Second Analogy and in Kant's general statements about the nature of logical laws. The sense in which Jones *must* draw the conclusion of a hypothetical syllogism when he believes its premises is that he *ought* to draw that conclusion, and will be open to epistemic criticism if he does not. Making causal presuppositions imposes a normative structure on the subject's mental operations. It is this normative necessity that removes the arbitrariness of these operations, thereby enabling objective purport. Once Jones presupposes that the sun is shining on the snowman and that sunshine causes snowmen to melt, his judgment that the snowman melts is not made arbitrarily but on the basis of a conclusive reason. Similarly the synthesis of perceptions required to make that judgment—placing a perception of the snowman standing tall before a perception of the melted snowman—is not an arbitrary activity stemming from the subjective constitution of Jones's mind, but an activity that is normatively necessary. This normatively necessary subjective order is the feature of Jones's perception in virtue of which it represents an objective temporal sequence.

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<sup>22</sup> It is this that explains Kant's insistence that pure logic is independent of the discoveries of empirical psychology. We will return to the question of whether it is possible for the mind to deviate from these rules in Section 6.

## 6. Objection: Normativity and the Possibility of Deviation

We found ample textual evidence that inferential necessity is normative. However, Tolley (2006) argues that we cannot coherently attribute to Kant the claim that logical rules are normative. This section deals with Tolley's objection.

Tolley argues that Kant is committed to the following claims:

1. For a rule to be normative for a subject, it must be possible for the subject to deviate from that rule.
2. It is not possible for thinkers to deviate from the rules of logic.

From these commitments, it follows that it would be incoherent for Kant to hold that the rules of logic are normative for thinkers. I will not question Kant's commitment to (1),<sup>23</sup> but will argue that Tolley is wrong to attribute (2) to him.

What would it mean for a thinker to deviate from the laws of logic? Focusing on the laws relevant to our topic, logic sets out which forms of inference are valid. To deviate from these laws would simply be to make an invalid inference. If Kant holds that it is possible for thinkers to make invalid inferences, then he is not committed to (2).

Is there evidence that Kant thinks that it is possible to make an invalid inference? Kant's discussion of "logical illusion" in *KrV* clearly shows his commitment to the idea that we sometimes make invalid inferences, which offend against certain logical rules: "Logical illusion, which consists in the mere imitation of the form of reason (the illusion of fallacious inferences [*Trugschlüsse*]) arises solely from a failure of attentiveness to the logical rule" (A296/B353). Consequently, one of the tasks of formal logic is to "discover false illusion in the form of syllogisms" (A333/B390). Similarly, at least some of the errors Kant identifies in the *Dialectic* arise from fallacious inference—the *Paralogisms* are the result of making a "fallacious inference [*Fehlschluss*]" due to an ambiguous term in the premises (A341/B399); and similarly the "cosmological syllogism" which produces the 'Antinomies' is a "mistake" arising from an ambiguous term. The *Hechsel Logic* also shows Kant describing formally invalid inferences not as impossible but as "erroneous or false":

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<sup>23</sup> Lu-Adler (2017, p. 207) proposes distinguishing between imperatival and evaluative normativity. While it is clear that Kant endorses (1) for imperatival normativity—facts about what subjects should do—it is doubtful whether he does so for evaluative normativity—facts about the goodness of things. Leech (2017, pp. 366f.) defends the normativity of logic in Kant by decoupling normativity and possible deviation in this way. However, since I interpret inferential necessitation as imperatival, I accept (1) for the purposes of discussion.

In regard to truth, the *syllogismus* is divided into true, and erroneous or false. An inference can be false, in such a way that the error lies either *in materia* or *in forma*. The inference suffers from an error [...] *in forma* if the *consequentia* is drawn falsely from true premises. (V-Lo/Hechsel, LV 2:455)

The propositions in an inference can be true, but the inference can nonetheless be false as to form, i.e., a fallacy. (V-Lo/Hechsel, LV 2:469)

Kant consistently endorses the possibility of deviating from the laws of valid inference, and hence denies (2) vis-à-vis these rules. Indeed, the notion that humans are naturally driven to certain violations of the rules of correct inference is central to his conception of reason. It follows that there is no reason to think that Kant denies that the rules for valid hypothetical syllogisms can be violated by thinkers.<sup>24</sup> We can reject Tolley's argument against the normativity of this logical rule and uphold the suggestion that the causal presuppositions X and Xs cause ABs make it normatively necessary for the subject to judge that AB occurs.

Tolley backs up his claim that it is impossible for thinkers to deviate from the rules of logic by contrasting the activity of thinking with the activities governed by moral laws (2006, p. 374). In the moral case, humans have a capacity to choose freely whether or not to obey the laws, while in thought we seem to have no such "*Willkür*-correlate". How can we reconcile this point with the thesis that rules of causal inference are normative? For our purposes it makes sense to discuss this vis-à-vis causal inference, rather than reasoning in general. Is there a "*Willkür*-correlate" in play in the domain of causal inference?

To answer this question, we need to understand what kind of "*Willkür*-correlate" is required for normative constraint. Kant elucidates the term "choice [*Willkür*]" as "[t]he faculty of desire [...] [i]nsofar as it is joined with one's consciousness of the ability to bring about its object by one's actions" (MS 6:213). This capacity is called free if it "can be determined by pure reason", i.e. if it is capable of selecting maxims on the basis of their adherence to the moral law. But in humans, "choice [*Willkür*]" is also influenced by "sensible" factors, namely "inclination, or sensible impulse". As Tolley acknowledges, it is the fact that the faculty of desire is subject to these "possibly obstructive forces" (2006, p. 373) that makes deviation from the moral law possible and thereby renders the moral law imperatively normative. We might be tempted to think that it is the element of "choice" that

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<sup>24</sup> See Lu-Adler (2017, pp. 211–3) and Leech (2017, pp. 356–63) for additional argument that Kant endorses the possibility of illogical thought.

renders the moral law normative. However, Kant's position is that the combination of determination by a (self-imposed)<sup>25</sup> law and influence by "possibly obstructive forces" is the key ingredient for normativity. This is made manifest by Kant's explicit application of normative standards to other activities that are not within the purview of the "faculty of desire", notably aesthetic judgments (*KU* 5:239) and the systematizing activities of reason and reflective judgment (*KU* 5:182; Mudd, 2016). For Kant, normative constraint does not depend on the presence of a capacity for choice, but rather on the presence of "possibly obstructive forces".

Are "possibly obstructive forces" in play in the domain of causal inference? Yes. As discussed, making causal judgments about particular objects is not possible without a contribution from sensibility. It is for this reason that, in order to move from the premises X and Xs cause ABs to the conclusion AB occurs, a subject must carry out a certain synthesis of perceptions. Kant states in the introduction to the Transcendental Dialectic that once sensibility is in the frame, a force is in play that can cause the mind to deviate from the "laws of the understanding" (A350f./B294f.; cf. *Log* 9:53f.). Indeed, Tolley accepts that his argument has no force for domains in which the understanding works in tandem with other faculties such as sensibility (2006, pp. 374, 399) and freely admits that logical rules may be normative when "applied" to those domains. Tolley fails to consider the possibility that the self-same formal laws which are discovered in pure logic might be normative for human subjects applying those laws in empirical judgment, but I see no reason for ruling this out. In the context of causal inference, sensibility constitutes the "possibly obstructive force" that makes deviation from logical rules possible, and thereby qualifies them as normative.

## 7. Conclusion

The necessitation of an ordering of perceptions is a form of inferential necessitation, resulting from the subject's causal presuppositions. This inferential necessitation is a form of epistemic normativity. The interpretation for which I have argued makes good sense of Kant's text, fits well with his argumentative aims and coheres closely with his broader position on the nature of causal inference. If correct, this interpretation shows that normative notions are in play right in the heart of Kant's Transcendental Analytic and that his conception of cognition turns

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<sup>25</sup> It is beyond our scope to discuss whether the laws of the understanding are self-imposed in a similar fashion to the moral law. Note that Kant writes that theoretical reason "must regard itself as the author of its principles" (*G* 4:448); and that "freedom in thinking signifies the subjection of reason to no laws except those which it gives itself" (*WDO* 8:145). Cf. Förster (2011, p. 124).



at a crucial point on the idea that the mind's operations are normatively structured: it is this very normative structure, imposed by causal presuppositions and rules of logical inference, that enables the representation of objective temporal sequence. What's more, I have argued that to understand Kant's text, we have to see this normative structure as extending beyond the level of judgment and encompassing the "synthesis of apprehension" carried out by the imagination, in which sensible material is placed in a temporal order. I have therefore found support for Pollok's (2017) view that, for Kant, the "determination of sensibility" is subject to normative standards.

To further clarify this conclusion and to pre-empt misunderstandings, let me emphasize what this conclusion is not. I have not argued that the Causal Principle is itself a normative principle. On the interpretation I have given, it is alethically necessary that, for all events AB and all subjects S, AB is only perceptible to S if S judges AB to be caused. A subject who places a perception of A before a perception of B without presupposing that something causes event AB does not thereby produce a perception of AB that is defective in some respect, but fails to produce a perception with objective temporal content. Therefore, the Causal Principle is a non-normative, alethic modal principle about perceptible events. Thus, my interpretation of the Second Analogy should not be taken as supporting Allison's (2004, p. xvi) and Pollok's (2017, p. 2) view that "synthetic judgments a priori" such as the Causal Principle serve as "norms" for cognition. On my view, it is *adherence* to the Causal Principle, not *being assessable* with regard to it, that conditions the possibility of objective temporal contents, and hence of objectively valid judgments about events. In this I agree with Pollok's claim that adherence to such principles is constitutive of "objective validity" in theoretical cognition (2017, pp. 10, 140f.); however, I see no reason to follow Pollok in claiming that the Causal Principle serves as a norm for judgments more broadly, e.g. the judgment that God spontaneously created the world (2017, pp. 10, 140f.). As I see it, neither the Transcendental Dialectic nor Kant's positive account of rational faith bears out the claim that judgments can be shown to be defective simply by pointing out their deviation from "principles of pure understanding" (which are in any case restricted to the domain of appearances).<sup>26</sup>

Nevertheless, the interpretation for which I have argued provides some support for an extremely wide-ranging interpretation of the role played by normativity in Kant's philosophy of mind. We have explored one area in which Kant insists that necessitation of the mind's

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<sup>26</sup> Thanks to an anonymous reviewer for pressing me to clarify this.

operations is required for objective representation, and found that the necessitation in question is provided by normative structures. Therefore, at least in the case of objective temporal contents, we have found Kant espousing the view that the contentfulness of mental states—of perceptions as well as judgments—depends on their having a particular normative status.

This specific thesis linking objective content to normative necessitation suggests that we should explore a more general thesis, like the view attributed to Kant by McDowell (1994), according to which normative necessitation is required for all kinds of objective content. The Second Analogy turns on the premise that the subjective order of perceptions cannot have objective purport if it is arbitrary, but there is textual evidence that Kant is committed to the general thesis that objective purport requires a necessitation of the mind's activities. In the Second Analogy it is normative necessitation that removes the arbitrariness; so perhaps when Kant writes that “our thought of the relation of all cognition to its object carries something of necessity with it [...] which is opposed to our cognitions being determined at pleasure or arbitrarily [*aufs Geratewohl, oder beliebig*]” (A104), he means that all relation to objects requires normative necessitation (cf. A108, B218f., A191/B236).<sup>27</sup> On the other hand, it may be that only syntheses of “connection [*Verknüpfung, nexus*]” and not of “composition [*Zusammensetzung, compositio*]” require normative constraint in order to produce representations with objective purport—a possibility suggested by Kant's characterization of the former as “not arbitrary [*nicht willkürlich*]”. If so, it would only be the representation of necessary connections (rather than contingent existences) which requires normative constraint.<sup>28</sup> Such questions require further investigation. Starting points for expanding this investigation might include exploring whether normative notions are at work in the other Analogies of Experience and the rest of the System of Principles; and providing a clearer account of how normative guidance of the “synthesis of apprehension” is possible.

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<sup>27</sup> Cf. Ginsborg (2008, p. 73).

<sup>28</sup> My thanks to an anonymous reviewer for suggesting this possibility.

# Kant's Move from Causal Rules to Universal Laws: A Deflationary Interpretation

**Abstract:** In the Second Analogy, Kant argues that every event has a cause. Scholars disagree about the import of this conclusion: does Kant argue only for the Weak Causal Principle that every event has some cause, or for the Strong Causal Principle that every event is produced according to a universal causal law? Existing interpretations have assumed that, by Kant's lights, there is a substantive difference between the two principles. I argue that this is false: Kant holds that the concept of cause contains the notion of lawful connection, so it is analytic that causes operate according to universal laws. Indeed, in his moral philosophy, this forms a key premise in his derivation of the Categorical Imperative. Consequently, Kant's move from causal rules to universal causal laws is much simpler than it has previously been taken to be: given his commitments, to establish the Weak Causal Principle is *eo ipso* to establish the Strong Causal Principle.

## 1. What Does the Second Analogy Try to Prove?

In the Second Analogy, a central and crucial chapter in the *Critique of Pure Reason*, Kant argues for the principle that every event (in the world of appearances) has a cause. Recent decades have witnessed a prolonged debate about the import of this conclusion. Does Kant seek to establish only

**Weak Causal Principle:** Every event has some cause;

or the apparently stronger

**Strong Causal Principle:** Every event is produced according to a universal causal law, i.e. every event belongs to a kind K and has a cause belonging to a kind L, such that necessarily every instance of kind L causes an event of kind K?

Scholars remain divided. Given the centrality of the Second Analogy, it is worth pursuing the matter further. I will argue that the three dominant interpretative positions on this issue are

mistaken. They all face textual problems, but more importantly they all rely on the assumption that, for Kant, there is a substantive difference between the Weak and Strong Causal Principles. However, as I will argue, there is ample textual evidence that Kant holds that the concept *<cause>* contains the notion of lawful causal connection, making it analytic that causes operate according to universal laws. This leads to a reassessment of the Second Analogy's import, its relation to other parts of Kant's work and the place of lawfulness in Kant's philosophy as a whole.

Let me orient my proposed interpretation within the existing scholarship. One group of interpreters holds that the Second Analogy tries to establish the Strong Causal Principle, but is inadequate for this purpose.<sup>1</sup> According to these interpreters, the chapter contains at best an argument for the Weak Causal Principle, but Kant mistakenly slides from this to the Strong Causal Principle. Call this the "INADEQUACY" interpretation. A second group of interpreters maintain that Kant is well aware that the Second Analogy can establish only the Weak Causal Principle, and that the argument for the Strong Causal Principle occurs elsewhere. Proponents of this reading disagree over where the argument for the Strong Causal Principle is located, but agree that it is not found in the Second Analogy chapter.<sup>2</sup> Call this the "ELSEWHERE" interpretation. A third interpretation argues that there is a substantive argument for the transition to the Strong Causal Principle within the Second Analogy chapter, which most commentators have missed.<sup>3</sup> Call this the "SUBSTANTIVE" interpretation.

On my "DEFLATIONARY" interpretation, Kant's move from causal rules to causal laws is much simpler. Since the concept of *<cause>* contains the notion of a lawful causal connection, to establish the Weak Causal Principle (that every event has a cause) is *a fortiori* to establish the Strong Causal Principle (that every event is produced according to a universal causal law). Kant has adequate justification for the move from causal rules to universal laws, but this rests neither on arguments outside the Second Analogy nor on a hidden substantive argument within that chapter. Instead, it is an almost trivial consequence of his understanding of the concept *<cause>*. Moreover, I argue that building lawfulness into the concept *<cause>* is not an *ad hoc* manoeuvre on Kant's part, but an outgrowth of his fundamental assumptions about the mind's *a priori* concepts and the nature of necessity.

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<sup>1</sup> This view is defended by Lovejoy (1906, p. 399), Strawson (1966, pp. 137f.), Dodge (1982) and Watkins (2005, pp. 215f., 289f.).

<sup>2</sup> See Buchdahl (1969a, pp. 651–6, 1969b, pp. 343f., 355–74), Beck (1978, pp. 126–9, 1981, pp. 46–56), Neiman (1994, pp. 51–62), Bayne (1994, pp. 409f.), Allison (1994, 2004, pp. 259f.) and Kannisto (2017).

<sup>3</sup> See Longuenesse (2005).

To what extent is my proposed interpretation new? This kind of reading is briefly considered by Allison, but quickly dismissed (2004, pp. 258f.).<sup>4</sup> Allison attributes this interpretation to Friedman, who indeed cites some of the passages which I argue support the DEFLATIONARY interpretation (1992, pp. 162, 192). However, Friedman is equivocal about Kant's warrant for the move, also suggesting that the lawfulness of causes stems from his conception of "objective experience", which Friedman's Kant equates with scientific theorizing (1992, p. 186, 1994, p. 36).<sup>5</sup> To my knowledge, the only commentator who has unequivocally proposed a DEFLATIONARY interpretation is Melnick (1973, pp. 130–5).<sup>6</sup> Perhaps due to the brevity of his discussion and his lack of argument against alternative readings, Melnick's proposal has sunk more or less without a trace—I am unaware of any later discussions of this part of Melnick's reading, and most work on the Second Analogy entirely overlooks the kind of view I defend in this article (e.g. Kannisto, 2017; Longuenesse, 2005; Watkins, 2005). The DEFLATIONARY interpretation clearly stands in need of further defence. In giving a thorough defence of this neglected view, I hope to fill this important lacuna in Kant-scholarship.

Before considering the relation between Weak and Strong Causal Principles, one might wonder how Kant establishes that every event has a cause in the first place. I have discussed this argument in detail elsewhere,<sup>7</sup> and will here focus exclusively on Kant's move from causal rules to universal laws. However, let me provide a brief summary of the main argument of the Second Analogy, in order to give some context:

- (1) For the representation of an event to be possible, something must remove the arbitrariness of the subjective order of perceptions;

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<sup>4</sup> The only objection Allison gives turns on conflating the Strong Causal Principle with the epistemic claim that we are capable of discovering the particular law under which any event falls. Kannisto (2017, pp. 498–500) gives a helpful explanation of this conflation.

<sup>5</sup> One commentator reads Friedman as giving an ELSEWHERE interpretation, according to which "Kant establishes [the Strong Causal Principle] in the *Metaphysical Foundations of Natural Science*" (Kannisto, 2017, p. 496). I am not convinced that this is a cogent reading of Friedman, but it nevertheless underscores the equivocal nature of his account of the move from rules to laws.

<sup>6</sup> Some remarks in O'Shea (1997) suggest that the lawfulness of causal rules follows from the concept of cause (e.g. p. 228). However, other passages suggest that it instead follows from substantive considerations about the counterfactual-supporting nature of causality (e.g. p. 222).

<sup>7</sup> Hutton (2018, included here as Chapter 1).

- (2) The subjective order of perceptions can only be rendered non-arbitrary through deployment of the concept of cause (specifically, through presupposing that the event in question has a cause);
- (3) Therefore, all events must be represented as caused;
- (4) Therefore, in the realm of appearances, every event has a cause.<sup>8</sup>

The discussion will proceed as follows. Section 2 offers grounds for dissatisfaction with the INADEQUACY, ELSEWHERE and SUBSTANTIVE interpretations, thus motivating the search for an alternative. Section 3 presents textual evidence that Kant holds that the concept *<cause>* contains the notion of lawfulness. This commitment plays a key role in Kant's moral philosophy, specifically in his attempt to derive the Categorical Imperative from the concept *<free will>*. Section 4 considers the charge that, on this reading, Kant's move from causal rules to laws rests on an *ad hoc* verbal stipulation. I argue that the conception of causality on which the move rests does inherit any arbitrariness inherent in Kant's derivation of the Table of Categories. Nevertheless, it is neither *ad hoc* nor merely verbal. Rather, it is a consequence of Kant's fundamental assumptions about our *a priori* concepts, about what features are definitive of causation, and about the connection between necessity and universality. Section 5 concludes by discussing further consequences for Kant-scholarship and for Kant's contemporary relevance.

## 2. Grounds for Dissatisfaction with Existing Interpretations

In Section 1, I described three interpretative positions concerning what Kant is trying to prove in the Second Analogy: the INADEQUACY interpretation, the ELSEWHERE interpretation and the SUBSTANTIVE interpretation. This section argues that each interpretation has significant weaknesses. My aim is not to provide knock-down objections, but to identify grounds for dissatisfaction, warranting the search for an alternative.

### 2.1 The INADEQUACY Interpretation

Proponents of the INADEQUACY interpretation charge Kant with being confused about the import of his own argument. Lovejoy accuses Kant of committing "one of the most spectacular examples of the *non-sequitur* which are to be found in the history of philosophy"

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<sup>8</sup> Similar reconstructions are defended by Allison (2004, p. 252) and Longuenesse (2005, p. 241).

(1906, p. 402, Lovejoy's emphasis), a remark echoed by Strawson (1966, p. 138).<sup>9</sup> Other commentators have offered explanations of why Kant might have been misled in this way, but also conclude that he is ultimately confused.<sup>10</sup>

Of course, even the greatest philosophers make mistakes, so we should not rule out such an interpretation by fiat. Nevertheless, our task as historians of philosophy is to find the most coherent interpretation that remains faithful to the evidence—if a plausible interpretation can be found with greater internal coherence, then we are justified in preferring it. We ought to go on searching, rather than resting content with the INADEQUACY reading.

## **2.2 The ELSEWHERE Interpretation**

The ELSEWHERE interpretation is more charitable to Kant. Instead of accusing him of overestimating the import of his arguments in the Second Analogy, its proponents take Kant to be undeceived: he knowingly argues only for the Weak Causal Principle in the Second Analogy, and provides the argument for the Strong Causal Principle only later. As noted, there are competing versions of the ELSEWHERE interpretation. Buchdahl (1969a, pp. 651–6, 1969b, pp. 343f., 355–74), Beck (1978, pp. 126–9, 1981, pp. 46–56), Neiman (1994, pp. 51–62), Bayne (1994, pp. 409f.) and Allison (2004, pp. 259f.) argue that the Strong Causal Principle is established (*qua* “regulative principle”) in the Appendix to the Transcendental Dialectic and the Introduction to the third *Critique*. In contrast, Kannisto (2017) locates the argument for the Strong Causal Principle in the Postulates of Empirical Thought.

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<sup>9</sup> Note that the alleged “*non-sequitur*” is not a slide from the Weak to the Strong Causal Principle, but from the necessity of the order of perceptions of an event to the causal necessity of the event itself. Nevertheless, Lovejoy only denounces Kant's pretensions to establish the Strong Causal Principle (1906, pp. 399f.) and Strawson allows that related considerations support “some kind and degree of [causal] order and regularity” (1966, p. 144). The “*non-sequitur*” objection is therefore directed at the Second Analogy *qua* argument for the Strong Causal Principle. Thanks to Rae Langton for pressing me to clarify this.

<sup>10</sup> Watkins shows how aspects of Kant's conception of physics would substantiate the assumption that causation is always lawful. Nevertheless, Watkins concludes that this “does not actually add any argumentative support to Kant's claim”, “[s]ince his account of physics depends on the metaphysical framework he is developing in the *Critique*” (2005, pp. 288–90). Beck also flirts with an INADEQUACY interpretation, suggesting an ambiguity in the meaning of “rule” as a potential explanation for Kant's confusion (Beck, 1981, pp. 27f., 55). Dodge (1982) argues that a regulative principle related to the Strong Causal Principle can be established by similar considerations, but does not offer this as an interpretation of Kant, nor would this be an argument for the Strong Causal Principle *per se*.

Rather than arguing against these interesting and sophisticated proposals in turn, I will present evidence that casts suspicion on ELSEWHERE interpretations in general—evidence that Kant aims to establish the Strong Causal Principle within the Second Analogy. Consider this passage, in which Kant describes the kind of causal rule that an event must stand under in order to be representable:

1. [T]here must therefore lie in that which in general precedes an occurrence the condition for a rule, in accordance with which this occurrence *always and necessarily follows*[.]” (A193/B238f., emphasis added)

Kant states that prior to an event (i.e. an “occurrence”), there must be a type of state (i.e. “that which in general precedes”) such that there is a “rule” connecting the event to the precursor, i.e. a causal rule. This rule concerns what type of effect “always and necessarily follows” that type of state. Kant equates the term “law” with “necessary rule” (A216/B263, *KU* 5:184); therefore, by declaring that this causal rule concerns what “always and necessarily follows”, Kant is stating that it must be a causal law. To summarize Kant’s point, for an event to be capable of being represented, it must be produced according to a causal law. Right in the heart of the Second Analogy, Kant is committing himself to the Strong Causal Principle.

Nor is this passage unrepresentative. Compare the following passages, also from the Second Analogy chapter:

2. [The order of states in the object] can only acquire its determinate temporal position in this relation through something being presupposed in the preceding state on which it always follows, i.e., follows in accordance with a rule [such that] [...] if the state that precedes is posited, then this determinate occurrence *inevitably and necessarily follows*. (A198/B243f., emphasis added)
3. This rule for determining something with respect to its temporal sequence, however, is that in what precedes, the condition is to be encountered under which the occurrence *always (i.e., necessarily) follows*. (A200/B245f., emphasis added)
4. [T]here is therein an order of the successive synthesis that determines an object, in accordance with which something would necessarily have to precede and, if this is posited, the other *would necessarily have to follow*[.] (A201/B246, emphasis added)



5. [I]f I were to posit that which precedes and the occurrence did not *follow it necessarily*, then I would have to hold it to be only a subjective play of my imaginings[.] (A201f./B247, emphasis added)

Kannisto (2017, pp. 505–7), acknowledging the threat posed to the ELSEWHERE reading by such passages, tries to explain away Kant's commitment to lawful causation by distinguishing causal relations between tokens and causal relations between types. Perhaps if Kant is talking about token causal relations, he can invoke a necessary connection without committing himself to a law?<sup>11</sup> Whether or not this reply works on its own terms, it struggles to fit the text. The first, second and third passages refer to the event “always” following from the cause, a claim that would be unintelligible if these were one-off relations between token events.

Therefore, the ELSEWHERE reading can only be upheld if we accuse Kant of repeatedly misstating the import of his argument. Once again, we cannot rule out the possibility that Kant simply made a mistake, but once again, the goal of finding a maximally coherent reading dictates that we continue examining alternatives.

### **2.3 The *SUBSTANTIVE Interpretation***

The SUBSTANTIVE interpretation, advanced by Longuenesse (2005), accepts that Kant is aiming to establish the Strong Causal Principle in the Second Analogy chapter, and tries to identify a hidden argument for that claim, which other commentators have missed. As is well known, the Second Analogy chapter presents a number of different expositions of an argument for the principle that every event has a cause. It is commonly agreed that most if not all of these expositions are identical in substance, with one exception. Numerous commentators, beginning with Adickes (1889), claim that a distinctive argument is presented at A199–201/B244–6.<sup>12</sup> This alleged “argument from the nature of time” (Paton, 1936, p. 253) runs as follows:

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<sup>11</sup> Bayne (1994, p. 408) makes a similar proposal. Neither Kannisto nor Bayne acknowledges the full range of passages cited here.

<sup>12</sup> Cf. Kemp Smith (1918, pp. 375f.), Paton (1936, pp. 253–5), Wolff (1963, pp. 272f.) and Thöle (1991, pp. 205–11). Other commentators deny that there is a distinctive argument in these pages, with Guyer claiming that they contain “nothing but a somewhat elaborate way in which Kant states the conclusion” of his argument (1987, pp. 241f.). Cf. Allison (1983, p. 227) and Longuenesse (1998, p. 364), though Longuenesse's later work reverses this position.

- (1) Time cannot be perceived directly.
- (2) Nevertheless, perception must exhibit all of the formal properties that are essential to time.
- (3) Therefore, appearances must contain empirical corollaries of the formal properties of time.
- (4) Time essentially has the formal property that each moment is “determined” by the previous moment.
- (5) Therefore, appearances must contain an empirical corollary of the determination of each moment by a prior moment.
- (6) The only empirical feature that could serve as a corollary of the determination of each moment by a prior moment is that every alteration be determined by some previous state in accordance with a rule.
- (7) Therefore, every alteration in the world of appearances must be determined by some previous state in accordance with a rule.

As Adickes succinctly puts it, “just as a prior time always determines the following time, in the world of appearances what has just happened fixes how things will happen next, according to a rule” (1889, p. 219).

Of the interpreters who recognize a distinctive argument from the nature of time, most hold that it aims at the same conclusion as the other arguments in the Second Analogy chapter. On Longuenesse's SUBSTANTIVE interpretation, however, the argument differs from the others not only in its mode of proof but in the conclusion it establishes: whereas the other expositions only support the Weak Causal Principle, the argument from the nature of time supports the Strong Causal Principle. She argues that the unity of time and the determinate position of each moment within the whole series require an empirical correlate and that this can only be the “preservation through time of any correlation that actually obtains” (2005, pp. 250–2). If I understand it correctly, her argument is that, not only must the empirical world reflect the pure structure of time according to which each moment is determinately located after the preceding moment; moreover, the empirical features which allow for establishing the order of events (viz. the causal rules) must be invariant across the whole of time. Since *<existence at all times>* is the schema of necessity (A145/B184), this would entail that the causal rules must be necessary, i.e. that they must be laws.

While Longuenesse's reconstruction is ingenious and certainly Kantian in spirit, it is doubtful whether it is successful. If we countenance the possibility of causal rules that are less than universal in scope, it is unclear why invariant rules would be needed in order for

“appearances” to “determine their positions in time for each other”. So long as each event is bound down to a specific moment in time by a causal relation to a “previous state”, that would be enough to ensure that the structure of the world of appearances recapitulates the determinate ordering of moments that constitutes time itself. *Pace* Longuenesse, if there is a gap between causal rules and causal laws, then the alleged argument from the nature of time lacks the resources to bridge it. Moreover, it is doubtful that Kant’s text contains Longuenesse’s argument. In the relevant passage, he does emphasize that, for appearances to display the required structure, each event must stand in a causal relation to some “previous state”, and that this involves a “general rule” (A199f./B245). However, he makes no special mention here of the invariability or necessity of these rules.

Another problem for Longuenesse’s SUBSTANTIVE interpretation is that, if the Strong Causal Principle is only established by the argument from the nature of time, and not by the other expositions contained in the Second Analogy chapter, we would expect Kant to assert the Strong Causal Principle only in connection with that argument. However, this is not what we find. Of the passages displaying Kant’s endorsement of the Strong Causal Principle within the Second Analogy (cited in Section 2.2), the first, second, fourth and fifth are presented as conclusions of arguments other than the alleged “argument from the nature of time”, with the first and second occurring before that argument is allegedly presented. Therefore, it is implausible that Kant intends the argument from the nature of time to be distinctively capable of establishing the Strong Causal Principle. The SUBSTANTIVE interpretation must ultimately accuse Kant either of being mistaken about what his arguments can establish or of being misleading in articulating their conclusions.

One other interpretation which I set aside is Guyer’s (1987, pp. 237–66), according to which one must know the specific causal law under which an event falls in order to confirm the belief that the event occurs. This purely epistemic reading of Kant’s conclusion represents an implausible weakening of his stated aims—Kant claims that the Causal Principle established in the Second Analogy is a “formal condition of all perception” (A199/B244), rather than a condition for the confirmation of beliefs.<sup>13</sup>

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<sup>13</sup> I therefore also set aside Kitcher’s discussion of the Second Analogy, which adopts Guyer’s reading (Kitcher, 1990, pp. 174–7). For related criticisms of Guyer, see Allison (2004, pp. 256f.), Longuenesse (2005, pp. 232f.) and Watkins (2005, p. 198).

### 3. The DEFLATIONARY Interpretation of Kant's Move

In Section 2, I argued that none of the existing interpretations of Kant's move from causal rules to causal laws is satisfying and that we should therefore be open to alternatives. In this section, I put forward an alternative, namely the DEFLATIONARY interpretation. However, my opinion is that the DEFLATIONARY interpretation is more than a promising alternative; it is mandated by unambiguous textual evidence.

#### 3.1 Textual Evidence

The crux of the DEFLATIONARY interpretation is the following claim: according to Kant, it is analytic that causes operate according to universal laws, because the concept *<cause>* contains the notion that causal connections are universal laws. Therefore, from the claim that every event has a cause, it trivially follows that every event is produced according to a universal causal law. The move from Weak to Strong Causal Principles can be achieved by mere substitution of synonymous terms. This is demonstrated in numerous passages in which Kant talks about the concept of *<cause>*. Here are four telling remarks from the *Critique of Pure Reason*:

[T]he very concept of a cause so obviously contains the concept of a necessity of connection with an effect and a strict universality of rule[.] (B5)

[T]his concept [i.e. "the concept of cause"] always requires that something A be of such a kind that something else B follows from it *necessarily* and in accordance with *an absolutely universal rule*. (A91/B124, Kant's emphasis)

[T]he concept of cause, which asserts the necessity of a consequent under a presupposed condition (B168)

[E]very effective cause must have a character, i.e., a law of its causality, without which it would not be a cause at all (A539/B567)

The first two passages explicitly state that the concept of *<cause>* requires that causal rules be "absolutely universal", and that this universal connection between cause and effect be "necessary". As noted above, for Kant a "necessary rule" is a "law", so these passages show Kant asserting that the concept of *<cause>* contains the concept of *<lawful causal connection>*. The third passage reaffirms that the necessity (and hence lawfulness) of causal

connections is part of the very concept of *<cause>*. The fourth explicitly puts the point in terms of laws.<sup>14</sup>

Further evidence comes in the *Prolegomena*. In order to illustrate what content is added to a judgment through the inclusion of the concept *<cause>*, Kant contrasts causal judgments with judgments about constant conjunction:

It is [...] possible that in perception a rule of relation will be found, which says this: that a certain appearance is constantly followed by another (though not the reverse)[.] [...] Here there is of course *not yet a necessity of connection, hence not yet the concept of cause*. But I continue on, and say: if the above proposition, which is merely a subjective connection of perceptions, is to be a proposition of experience, then it must be regarded as necessarily and universally valid. But a proposition of this sort would be: The sun through its light is the cause of the warmth. *The foregoing empirical rule is now regarded as a law, [...] which requires universally and therefore necessarily valid rules.* (*Prol* 4:312, emphasis added)

Setting aside Kant's controversial distinction between judgments of perception and judgments of experience, we can focus on what distinguishes the judgment that *<x causes y>* from the judgment that *<xs are constantly conjoined with ys>*. Kant writes that if we assert a "rule" linking xs and ys, without this "connection" being "necess[ary]", we have "not yet" deployed "the concept of cause". When we move to the judgment that *<x causes y>*, this "empirical rule" linking xs and ys is "now regarded as a law": deploying the concept of cause entails assuming that the rule connecting antecedent and consequent is a law, i.e. a necessary rule. Two passages from surrounding pages confirm that it is "the concept of cause" that brings the "necessity" (and *ipso facto* the lawfulness) of the linkage:

That this heating *necessarily* results from the illumination by the sun is in fact contained in the judgment of experience (in virtue of the concept of cause) (*Prol* 4:305n., emphasis added)

The concept of cause contains a rule, according to which from one state of affairs another follows with *necessity*; but experience can only show us that from one state of

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<sup>14</sup> This passage makes no reference to the *concept* of *<cause>*. However, here Kant is discussing what can be said about causation in general, whether in the phenomenal or noumenal realm. Since the only restriction on thoughts about noumena is the law of contradiction, the assertion quoted must be intended to be analytic.

things another state often, or, at best, commonly, follows, and it can therefore furnish neither strict universality nor necessity (and so forth). (*Prol* 4:315, emphasis added)

Interestingly, such statements are not confined to Kant's theoretical philosophy. Perhaps the clearest remark comes from the *Groundwork of the Metaphysics of Morals*:

[T]he concept of causality brings with it that of laws in accordance with which, by something that we call a cause, something else, namely an effect, must be posited (*G* 4:446)

In Section 3.2 we will see the systematic weight this carries within Kant's practical philosophy as a whole. First, a passage from one more work, *Religion within the Boundaries of Mere Reason*:

To think of oneself as a freely acting being, yet as exempted from the one law commensurate to such a being [...], would amount to the thought of a cause operating without any law at all [...]: and this is a contradiction. (*RGV* 6:35)

If a judgment's negation is contradictory, then the judgment is analytic (e.g. B16f., A151f./B190f., *Prol* 4:267). Here Kant asserts that the judgment <there exists a cause that operates without a law> is contradictory. Ergo, for Kant, the judgment <all causes operate according to laws> is analytic.

### **3.2 Causality and Lawfulness in the Groundwork**

We have seen numerous statements from four different works in which Kant affirms that the concept of cause contains the notion of lawful connection. Still, one might suspect that these are throwaway remarks, on which Kant would be unwilling to place the sort of argumentative weight required by the DEFLATIONARY interpretation. In this subsection, I will dispel that suspicion by showing that the analyticity of causes' lawful operation plays a key role in a central argument of the *Groundwork of the Metaphysics of Morals*.

*Groundwork* Section III begins with a derivation of the Categorical Imperative from the concept of <free will>. As we will see in a moment, a key premise in this derivation is that the concept of <free will> entails lawful causation. Kant then argues that rational beings "cannot act otherwise than under the idea of freedom" (*G* 4:448) and, combining these two results, concludes that agents must take themselves to be normatively bound by the

Categorical Imperative. We need not concern ourselves with the cogency of this broader argument—the thing to note is that the whole enterprise depends on the claim that “the concept of causality brings with it that of laws” (*G* 4:446).<sup>15</sup>

I quote the relevant passage at length. (Bracketed numbers refer to the reconstruction given below.)

THE CONCEPT OF FREEDOM IS THE KEY TO THE CLARIFICATION  
[*ERKLÄRUNG*] OF THE AUTONOMY OF THE WILL

[1] *Will* is a kind of causality of living beings insofar as they are rational, and [2] *freedom* would be that property of such causality that it can be efficient independently of alien causes *determining* it, just as *natural necessity* is the property of the causality of all nonrational beings to be determined to activity by the influence of alien causes.

The preceding clarification [*Erklärung*] of freedom is *negative* and therefore unfruitful for insight into its essence; but there flows from it a *positive* concept of freedom, which is so much the richer and more fruitful. Since [3] the concept of causality brings with it that of *laws* in accordance with which, by something that we call a cause, something else, namely an effect, must be posited, so freedom, although it is not a property of the will in accordance with natural laws, is not for that reason lawless but [C1] must instead be a causality in accordance with immutable [*unwandelbaren*] laws but of a special kind; for otherwise a free will would be an absurdity [*Unding*]. [2, stated negatively] Natural necessity was a heteronomy of efficient causes, since every effect was possible only in accordance with the law that something else determines the efficient cause to causality; [C2] what, then, can freedom of the will be other than autonomy, that is, the will's property of being a law to itself? [4] But the proposition, the will is in all its actions a law to itself, indicates only the principle, to act on no other maxim than that which can also have as object itself as a universal law. This, however, is precisely the formula of the categorical imperative and is the principle of morality; hence [C3] a free will and a will under moral laws are one and the same [*einerlei*].

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<sup>15</sup> The importance of the premise that causes must be lawful is noted by O'Neill (1989, p. 53) and Korsgaard (1996, p. 163).

If, therefore, freedom of the will is presupposed, morality together with its principle follows from it by mere analysis [*Zergliederung*] of its concept. (G 4:446f., Kant's emphasis)

The argument in the passage can be reconstructed as follows:

1. A free will is a kind of causality.
2. A free will cannot operate according to laws imposed by external causes.
3. All causes operate according to immutable laws.
- C1. Therefore, a free will is a causality that operates according to immutable laws.
- C2. A free will imposes a law on itself.
4. If x imposes a law on itself, then it is bound by the Formula of Universal Law.
- C3. A free will is bound by the Formula of Universal Law.

Each premise and each conclusion is intended to be analytic. Kant makes this explicit by characterizing the whole passage as a “clarification [*Erklärung*]” and as following “by mere analysis [*Zergliederung*]” of the concept *<freedom of the will>*. This analyticity is reaffirmed at almost every step: (1) results from a “clarification [*Erklärung*]” of “freedom”; our key thesis (3) is “[brought] with” “the concept of causality”; a free will contradicting (C1) is an “absurdity [*Unding*]”;<sup>16</sup> (C3) concerns two terms being “equivalent [*einerlei*]” and is contrasted with the “synthetic proposition” that “an absolutely good will is that whose maxim can always contain itself regarded as a universal law”. If any of the premises of the argument were not analytic, then the conclusion would not be analytic either.

Moreover, Kant would be unable to affirm the lawfulness of causes in this context if it depended on any substantive transcendental arguments concerning the nature of experience (as the ELSEWHERE and SUBSTANTIVE interpretations would have it). The argument focuses on a kind of causality distinct from the “natural necessity” of the world of appearances, so it is crucial that the very “concept of causality brings with it that of laws”.<sup>17</sup> Therefore, the claim that the concept *<cause>* contains the notion of lawfulness turns out to have great systematic importance for Kant. Without it, he could not claim in this context that every

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<sup>16</sup> In the *Critique of Pure Reason*, Kant defines an “absurdity [*Unding*]” as “the object of a concept that contradicts itself” (A291f./B348).

<sup>17</sup> While natural causes are discussed here only to make a negative point, it is noteworthy that Kant insists that they “operate in accordance with natural laws”: the discussion makes it clear that lawfulness is a characteristic of the whole genus of causality, not a feature specific to either natural or autonomous causation.



cause operates according to “immutable laws” and *Groundwork* Section III’s attempt to give a transcendental argument for the Categorical Imperative would falter at the first step.

In Section 3.1, I presented numerous passages from published works of the Critical period in which Kant explicitly affirms that the concept of *<cause>* contains the notion of lawful connection. In Section 3.2, I showed that this is no minor commitment, but one with great systematic importance in Kant’s moral philosophy. According to Kant, “x causes y” is synonymous with “x produces y in accordance with a universal causal law”. From this, it follows that

**Weak Causal Principle:** Every event has some cause

is synonymous with

**Strong Causal Principle:** Every event is produced according to a universal causal law.

The latter simply makes explicit what is already contained in the concept of *<cause>*. Kant’s move from causal rules to universal laws requires nothing more than the substitution of equivalent terms, or as Kant might say, the “clarification” of what is “already thought [...] (though confusedly)” in the “component concepts” of the former (cf. A7/B10f.). Therefore, any reading of the Second Analogy which finds a coherent argument for the Weak Causal Principle ought to credit Kant with being entirely coherent in asserting the Strong Causal Principle on the same basis. In failing to recognize this, the INADEQUACY, ELSEWHERE and SUBSTANTIVE interpretations all assume that there is a substantive difference between Weak and Strong Causal Principles. We have now seen that Kant rejects this assumption.

## **4. Causality, Shmausality**

In Section 3, I argued that Kant believes that the concept *<cause>* contains the notion of lawful causal connection. This renders it analytic that causes operate according to universal laws, thereby warranting the transition from the Weak to the Strong Causal Principle. Anyone who is willing to credit Kant with a cogent argument for the Weak Causal Principle ought to accept that, at least on his own terms, Kant is justified in asserting the Strong Causal Principle. The move from causal rules to causal laws is rendered seamless by Kant’s concept *<cause>*. This section considers an objection to Kant’s argument so construed.

The objection is this: even if Kant's move from the Weak Causal Principle to the Strong Causal Principle is warranted given his way of setting up the debate, it does not follow that he is beyond reproach. What warrant does Kant have for setting up the debate in this way, i.e. in building the notion of lawfulness into the concept of *<cause>*? Is this not merely an *ad hoc* manoeuvre, an attempt to solve a substantive philosophical problem by stipulation?

To put a sharper point on the objection, we can adapt an argument by Enoch (2006) against "constitutivist" theories in metaethics (i.e. theories that try to derive normative facts from the concept of agency). Enoch concedes for argument's sake that the concept *<agent>* entails that agents have certain normative commitments. However, he proposes to think of himself not as an agent, but as a "shmagent": something very like an agent, but without those normative commitments. The substantive conclusion that we are subject to certain norms cannot be established through the mere analysis of a concept. If you pack that content into a certain concept, I can always propose another concept without the extra baggage. Analogously, we could concede for argument's sake that the concept of cause entails universally lawful connections. In that case, we can simply coin a new concept, *<shmause>*, with the same content as the concept of *<cause>* minus the implication of lawfulness. If, as the DEFLATIONARY interpretation contends, Kant's move from the Weak to the Strong Causal Principle turns on the content of the concept of cause, then here is a new challenge. The DEFLATIONARY interpretation concedes that the arguments of the Second Analogy give no special reason to think that events must be produced in a lawful manner, other than that the concept *<cause>* is defined so as to have this consequence. It therefore seems that those arguments are compatible with a claim exactly like the Weak Causal Principle minus the implication of lawfulness:

**Shmausal Principle:** Every event has a shmause.

And from the Shmausal Principle, there can be no seamless transition to the Strong Causal Principle. Kant has won the right to the Strong Causal Principle by theft, not by honest toil. Consequently, so the objection goes, his argument for the Strong Causal Principle has no pull on us unless we restrict ourselves to his arbitrarily defined concept *<cause>*.<sup>18</sup>

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<sup>18</sup> This reveals another parallel between the place of lawfulness in Kant's metaphysics and in his practical philosophy—Enoch's objection is targeted *inter alia* at Korsgaard's Kantian constitutivism (cf. Enoch, 2006, p. 179).

This line of objection seems right as far as it goes. However, it treats the argument of the Second Analogy as if it floated free from its broader context within the *Critique of Pure Reason*. Once we recognize this context, Kant's move no longer seems *ad hoc*. Consider again the summary of the argument of the Second Analogy given in Section 1:

- (1) For the representation of an event to be possible, something must remove the arbitrariness of the subjective order of perceptions;
- (2) The subjective order of perceptions can only be rendered non-arbitrary through deployment of the concept of cause (specifically, through presupposing that the event in question has a cause);
- (3) Therefore, all events must be represented as caused;
- (4) Therefore, in the realm of appearances, every event has a cause.

(2) asserts that the concept *<cause>* is the only tool we have that could perform the required function. In Kant's words, "[t]he concept [...] that carries a necessity of synthetic unity with it can only be a pure concept of understanding [...] and that is here the concept of the *relation of cause and effect*, the former of which determines the latter in time" (B234, Kant's emphasis). This is the step that warrants Kant in affirming that every event has a cause in his specific sense of the term "cause"—in affirming the Weak Causal Principle and its immediate consequence the Strong Causal Principle, rather than the Shmausal Principle.

Kant's text contains little explicit argument for the claim that only the concept of *<cause>* could play the mental role (viz. removing the arbitrariness of the subjective order of perception). Nevertheless, the context makes clear why he should think this: no other options are available. Firstly, no empirical concept could do the job. The arbitrariness of the order of perceptions must be removed for experience to become possible, but empirical concepts can only be acquired through experience; therefore, it would be viciously circular to claim that empirical concepts remove the arbitrariness of the order of perceptions. Secondly, no mathematical concept could play the role. Kant gives no explicit argument for this, but here is a line of thought based on the footnote at B201f.: since mathematical concepts concern only "compositions" rather than "connections" between appearances, they could not render a particular connection between perceptions of two different states necessary. The only remaining candidates are the categories and their schemata. Of the list of categories derived in the Metaphysical Deduction and their restrictions to the temporal realm in the Schematism, the only one that could plausibly render a temporal order of perceptions necessary is the

(schematized) concept of *<cause>*, which represents “the succession of the manifold insofar as it is subject to a rule” (A144/B183).

From this final step, we can see that a key part of Kant's argument is that we possess only a limited stock of non-mathematical *a priori* representations. The claim that only the concept *<cause>* can fulfil the required function is based on exhausting all available alternatives. This reveals why it would be unfair to accuse Kant of simply stipulating that we deploy the concept of *<cause>* (laden with the implication of lawfulness) rather than the concept of *<shmause>* in order to make perception of events possible: Kant does not *stipulate* the use of the concept of *<cause>*, but argues against a background in which it has already been established to his satisfaction that we possess an *a priori* concept of *<cause>* and no other *a priori* concept that could play an analogous role.

In one sense, this shows that the ‘shmause’ objection is misconceived. Kant does not reach the Strong Causal Principle through terminological stipulation, but by applying his background theory of the mind's *a priori* representations. However, in another sense this answer simply pushes the question back one step. Why does Kant claim that the concept of *<cause>* has this special status, of being one of our small stock of (non-mathematical) *a priori* concepts? And on what grounds does he assert that the concept *<cause>* is such that it renders it analytic that causes operate according to laws?

Kant's views about what *a priori* concepts we possess are presented in the Metaphysical Deduction (A66–83/B91–116). There, Kant tabulates the basic logical functions of judgment and derives the Table of Categories from these. It is an old accusation that this enumeration of the “functions of judgment” and derivation of the categories from these seems arbitrary, if not outright suspect. If Kant's justification for endorsing the Strong Causal Principle ultimately depends on the Metaphysical Deduction, it inherits all of the dissatisfactions associated with the latter. We might also consider the possibility that Kant simply found it intuitively obvious that we possess an *a priori* concept of *<cause>*.<sup>19</sup> If so, then the purpose of the Metaphysical Deduction is to explain this fact, not to convince us that it is true. In that case, the claim that we possess an *a priori* concept of *<cause>* would rank among the fundamental unargued assumptions of the Critical project.

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<sup>19</sup> This hypothesis is supported by the sketches of Kant's philosophical development given by Longuenesse (1998, pp. 347–58) and Watkins (2005, pp. 166–70), which present his belief in an *a priori* concept of non-logical necessary connection (i.e. “real ground”) as one of the main driving forces behind Kant's pre-Critical innovations and the genesis of the Critical project.

But why does Kant hold that this *a priori* concept of <cause> contains the notion of necessary and universal connection? Kant presents this conceptual claim as “obviously” (B5) true. He claims that if we leave out these features, e.g. by accepting Hume’s reduction to constant conjunction plus subjective expectation, then the concept of <cause> “would be entirely lost” (B5).<sup>20</sup> Kant does not argue for this claim, so it too ranks among his fundamental assumptions. We might not share this assumption; nevertheless, we have surely all encountered the intuition that to accept a Humean reduction of causation would be tantamount to banishing genuine causal connections. The assumption, even though it is unargued, seems not *ad hoc* but philosophically respectable.<sup>21</sup>

That takes care of Kant’s assumption that causal relations are *eo ipso* necessary connections. What about the universality of causal connections? In the Introduction to the *Critique of Pure Reason*, Kant asserts that all necessary truths are universal in scope: “Necessity and strict universality [...] belong together inseparably” (B4). He offers no argument for this claim either, so it appears that this is another fundamental assumption. Arguably, this is quite an attractive assumption. It seems plausible that particular and parochial necessary truths are always the consequence of general necessary truths which can be expressed without reference to particulars or spatio-temporal restrictions.

To sum up the conclusions of this section, it would be erroneous to claim that Kant’s argument for the Strong Causal Principle is *ad hoc*. In the Second Analogy, Kant draws on background claims about the mind’s stock of *a priori* concepts. These claims in turn rest on Kant’s fundamental assumptions about the nature of causality and the connection between necessity and universality. We might not share Kant’s starting points, but we cannot fault him for having these basic commitments—all philosophical argumentation bottoms out in unargued premises at some point.

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<sup>20</sup> Note that Hume himself agrees that it is part of the “idea of cause and effect” that there is a “necessary connexion” between the two (1738, p. 77), but holds that constant conjunction and subjective expectation are sufficient for necessary connection. (I here follow e.g. Millican, 2009 in rejecting the “New Hume” interpretation.) Kant’s disagreement with Hume on this point concerns whether mere (inductively discovered) constant conjunction and subjective expectation are sufficient for the necessity that is characteristic of causal relations.

<sup>21</sup> Kant was probably right to believe that the audience he was addressing would find this assumption “obvious”. Cp. the reception of Hume’s work in 18<sup>th</sup> c. Germany described by Watkins (2005, pp. 364–73).

## 5. Conclusion

I have argued that Kant holds that the concept of *<cause>* contains the notion of lawful causal connection. Therefore, for Kant, it is analytic that causes operate according to universal laws and his move from the Weak to the Strong Causal Principle requires no substantive argument. This reading is mandated by the numerous passages in which Kant states that the concept of *<cause>* entails a lawful connection between cause and effect, and the fact that this claim bears significant weight in his attempt to derive the Categorical Imperative from the concept of *<free will>*. Moreover, unlike competing interpretations, this reading fits with Kant's stated conclusions in the Second Analogy and the absence of any substantive argument for the move from the Weak to the Strong Causal Principle.

Let me clarify what the conclusion of the Second Analogy amounts to on my interpretation. I have argued that, if Kant has a cogent argument for the Weak Causal Principle, then given his background assumptions he is also warranted to assert the Strong Causal Principle. The Strong Causal Principle states that every event belongs to a kind K and has a cause belonging to a kind L, such that necessarily every instance of kind L causes an event of kind K. This is incompatible with there being brute causal relations between particulars or brute causal rules localized to certain spatio-temporal regions. *Pace* those interpreters who claim that it establishes only the Weak Causal Principle, the Second Analogy guarantees that the world of appearances consists of natural kinds related by causal laws with universal scope.

Some commentators have assumed that if the Second Analogy establishes the Strong Causal Principle, it must tell us something about what the particular causal laws are. This, however, would be a mistake.<sup>22</sup> The proposition *<the world is governed by a set of causal laws>* does not entail any particular laws. Kant holds that we can know *a priori* that there is some set of natural kinds related by causal laws, but it takes experience to discover what the laws are: "Experience must be added in order to come to know particular laws *at all*" (B165, Kant's emphasis; cf. A127, A159/B198, A216/B263).<sup>23</sup> In fact, establishing the Strong Causal Principle does not even provide us with a method for discovering particular laws through experience. The Strong Causal Principle states that nature is "uniform" in the sense

<sup>22</sup> Cf. Kannisto's diagnosis of this mistake (2017, pp. 498–500).

<sup>23</sup> It is beyond the scope of this article to discuss how best to reconcile Kant's claim that particular causal laws can be discovered only through experience with his claim that necessary truths can be known only *a priori* (e.g. B3). For discussion of this point see Friedman (1992a) and Allison (1994).

of being structured by universal laws, but it does not give us reason to prefer simpler explanations of our observations, nor a way to determine how broad the causal kinds are that structure the phenomena we observe. Kant's argument for how we ought to frame and revise causal hypotheses comes only later, with the "regulative principles" given in the Appendix to the Transcendental Dialectic and the Introduction to the *Critique of Judgment*. Consider the following passage from the latter:

[T]he understanding says: All alteration has its cause [...]. Now, however, the objects of empirical cognition are still [...], as far as one can judge *a priori*, determinable in so many ways apart from that formal time-condition that specifically distinct natures [...] can still be causes in infinitely many ways; and each of these ways must (in accordance with the concept of a cause in general) have its rule, which is a law [...]. Thus we must think of there being in nature, with regard to its merely empirical laws, a possibility of infinitely manifold empirical laws[.] (*KU* 5:183)

Here, Kant describes what follows from the Causal Principle. He affirms that each cause must operate according to a law, but that there is no limit to how complex the laws could be. This presents a problem for our attempts to find out what the laws are. He goes on to argue that this problem can only be overcome on the assumption of regulative principles for judgment. Were we to conflate the Strong Causal Principle with an epistemic principle about how particular causal laws are known, it might be thought that this passage poses a problem; having distinguished what does and what does not follow from the Strong Causal Principle, we can see that these remarks fit perfectly well with the DEFLATIONARY interpretation.<sup>24</sup>

My conclusion about the Second Analogy also has ramifications for how we should understand other parts of Kant's work: proponents of the ELSEWHERE interpretation have

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<sup>24</sup> On the present interpretation, does the conclusion of the Second Analogy rule out there being one-off causal connections, instantiated only once throughout all space and time? Allison (1994, p. 298) argues that, if it does not, then this supports that ELSEWHERE interpretation, because a law connecting single instances is not really a law. As explained, the Strong Causal Principle is incompatible with brute causal relations between particulars: all particular causal connections must be instances of universal laws which relate a *kind* of cause and a *kind* of effect. However, if it is metaphysically possible for there to be natural kinds which are instantiated only once in the actual world, then a sort of one-off causal connection would be possible. I am unaware of any passages in which Kant discusses this matter. If Allison is right that such a connection would not be a law, then the Strong Causal Principle rules out one-off connections; if one-off connections may still be laws, then they are compatible with the Strong Causal Principle. Either way, this does not constitute a point in favour of the ELSEWHERE interpretation.

argued that the lawfulness of causes is established in the *Dialectic's* Appendix and the third *Critique's* Introduction, or else in the Postulates of Empirical Thought. The present interpretation requires that we reject these accounts of what occurs in those sections.

Firstly, we must reject the Buchdahl-Beck-Allison-Neiman reading of the *Dialectic's* Appendix and the third *Critique's* Introduction. On that reading, the understanding (through activities detailed in the Transcendental Analytic) yields experience of objects without representing them as lawfully connected. The systematizing activities of reason (described in the *Dialectic's* Appendix) and/or reflecting judgment (described in the third *Critique's* Introduction) take these experiences and produce a picture of a world governed by laws.<sup>25</sup> On the reading I have defended, this cannot be right: any subject who has experience (of events) must already construe nature as operating according to universal causal laws. This suggests two possibilities about the relation between the activities of the understanding and those of reason/reflecting judgment. The first possibility is that the understanding operates alone to produce representations of lawfully connected phenomena, and that reason/reflecting judgment take these representations and revise them with the aim of producing a more parsimonious and unified theory. The second interpretative possibility is that the activities of reason/reflecting judgment are responsible for guiding the framing of hypotheses about the laws of nature, but that this is coeval with and necessary for the understanding's production of experience. On this latter view (which I briefly defended in Chapter 1), understanding and reason/reflecting judgment do not form two steps in a serial process, but rather two simultaneous and inextricably linked aspects of the process of experiencing the world.

Similarly, my conclusion entails rejecting Kannisto's (2017) account of what is established in the Postulates of Empirical Thought. Kannisto holds that, among other things, the section on the 'Postulate of Necessity' contains Kant's argument for the Strong Causal Principle. My argument for the DEFLATIONARY interpretation indicates that we should instead follow Friedman's interpretation of the third postulate as detailing "a procedure by which empirical causal laws are themselves related to the a priori principles of the understanding so as to confer on them both necessity and intelligibility" (1992, p. 180).

The conclusion for which I have argued also has consequences for two broader issues in Kant-scholarship. The first concerns Kant's reconciliation of freedom and determinism. Some have attempted to reconcile Kant's libertarianism with his determinism by 'softening' the latter. For example, Allais (n.d.) argues that Kant is not committed to the existence of

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<sup>25</sup> It is beyond the scope of this article to discuss the relation between reason and reflecting judgment.



“global” causal laws. If the present interpretation is correct then, *pace* Allais, Kant holds that all events fall under strictly universal laws, and we should pursue other accounts of Kant’s compatibilism. The second issue concerns how to reconcile Kant’s determinism with his qualified endorsement of teleological explanations. Allison (1990, Chapter 4) argues that the apparent conflict can be dissolved because Kant is only committed to the *regulative* principle that we should look for laws of efficient causation, not the *constitutive* principle that nature operates according to such laws. If correct, my interpretation shows that, *pace* Allison, Kant is committed to the *constitutive* principle that every event is produced according to a universal causal law, and we should pursue other accounts of the relation between causal and teleological judgments.

One final ramification concerns Kant’s contemporary relevance. In Section 4, we saw how his argument for the Strong Causal Principle depends crucially on its position within Kant’s broader project and on a number of fundamental, unargued assumptions. From a contemporary perspective, it is somewhat disappointing to find Kant’s move to the Strong Causal Principle relying above all on the specifics of Kant’s definition of causality, specifics for which he provides no argument. Indeed, there is a hint of irony in this, since Kant claims that “in philosophy the definition [...] must conclude rather than begin the work” (A730f./B758f.). On the other hand, it would be unfair to criticize Kant for relying on a set of basic philosophical commitments—argumentation must always bottom out in unargued premises. It is an open question whether the reader shares Kant’s starting assumptions or not. Still, it is surely of great philosophical interest to have a clearer picture of what those starting assumptions are and how they support his bold conclusions.



# Perception and Rule-Following: The Role of Schemata in Kant's Theory of Cognition

**Abstract:** We encounter objects (e.g. daffodils) through perception, and we can subsequently have thoughts about them. To do so, we need to connect our perceptions with concepts. But how can there be relations of “fit” between perceptions and concepts, such that a given concept applies to some, but not all, perceived objects? According to Kant, we need a third mental representation—a “schema”—to mediate between the two. Despite much interest in Kant’s theory of cognition, this part of his account remains poorly understood. I argue that schemata form a central and well-motivated part of Kant’s account: given his background commitments about representation and normativity (which remain largely attractive from a contemporary perspective), Kant is right to claim that cognition would be impossible without schemata. I endorse the existing view that schemata are rules for “synthesis of the imagination” (i.e. the process through which the mind converts sensory material into complex perceptions of objects), but argue that existing readings fail to explain the function of these mental rules. I therefore make the novel proposal that schemata impose a *normative* structure on the mind’s synthesizing activities. They play a role akin to “maxims” within Kant’s practical philosophy, connecting an individual’s synthesizing activities with normative standards. By doing this, they transform synthesis from a “subjective play of imaginings” into something that purports to represent mind-independent features. This makes it possible for perceptions to represent objects as bearing kind-properties, and thus fixes which perceptions are classifiable under which concepts.

## 1. Introduction

I see a daffodil. This puts me in a position to have various thoughts that I could not otherwise have had. (E.g. “This daffodil is a bit short of water.”) In general, our ability to have thoughts about the objects around us seems to rely on those thoughts being connected with sense-perception. This idea is central to Kant’s theory of cognition—Kant holds that “cognition”

(i.e. thoughts about perceptible objects) can only arise when I unify an “intuition” (i.e. a perceptual representation of a particular) and a “concept” (i.e. a general representation deriving from the understanding). For example, in order to cognize a daffodil, I must perceive an object and classify it under the concept *<daffodil>*.

But our thoughts will not purport to represent an objective world if we apply concepts willy-nilly. If I were to apply the concept *<daffodil>* indifferently to any object I perceived, this would be as good as not consulting perception at all. Similarly, if I can classify an intuition under the concept *<daffodil>* while you can faultlessly classify an identical intuition under the concept *<pineapple>*, then our thoughts don't seem to be making contact with the objective, public world we share. Therefore, a further condition for cognition is that there must be standards of correctness governing the application of concepts to perceptions. In Kant's terms, cognition requires not just any pair of concepts and intuitions, but an intuition “corresponding to” the concept (e.g. A50/B74f., B146). But what accounts for these relations of fit (or “correspondence”<sup>1</sup>) between intuitions and concepts?

I will argue that to understand Kant's account of this correspondence, we need to look to the mental representations he calls “schemata”. For Kant, a schema is a “third thing” (A138/B177) that somehow mediates between the concept and the intuition, without which “all concepts without distinction” “would lack significance [*Bedeutung*]” (A156/B195). Kant introduces schemata while addressing a specific problem about the a priori concepts he calls the “categories”,<sup>2</sup> but he postulates schemata for every kind of concept that finds application in experience.<sup>3</sup> A schema is described as the “representation of a general procedure of the imagination for providing a concept with its image” (A140/B179f.) and is supposed to bridge the gap between concepts and intuitions. My aim is to explain exactly what role this kind of mental representation is supposed to play in the mental activities of someone cognizing a daffodil; to explain how schemata bring intuitions into relations of correspondence with concepts; and to determine the extent to which Kant has good reasons for positing schemata.

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<sup>1</sup> My use of the term “correspondence” is unrelated to “correspondence theories of truth”. “Correspondence” here refers to a relation of fit between two mental representations—an intuition and a concept—not between true thoughts or sentences and the things they represent.

<sup>2</sup> The problem of “heterogeneity” (A137f./B176f.).

<sup>3</sup> Kant posits schemata for “our pure sensible concepts”, i.e. mathematical and geometrical concepts (A140f./B180) and also insists that applying empirical concepts to objects of experience requires schemata (A141/B180).

To the extent that we think there is value in understanding Kant's theory of cognition, these matters are worth pursuing. Additionally, I will consider Kant's view from a contemporary vantage point, with the aim of showing not just what Kant thought but what relevance his thoughts still have. Schemata remain a poorly understood part of Kant's theory of the mind. Commentators have long bemoaned the obscurity of the passages in which Kant introduces them;<sup>4</sup> and in recent years, even those commentators most interested in the relation between intuitions and concepts have tended to set schemata aside.<sup>5</sup> But Kant clearly presents schemata as central to his account of how intuitions relate to concepts, and by extension his whole theory of cognition. Consider this intriguing note written near the end of his life: "The schematism is one of the most difficult points of all. – Even Herr Beck<sup>6</sup> struggles to find his bearings in it – I hold this chapter to be one of the most important" (*Refl* 6359, 18:686).

I will argue that schemata form a central and well motivated part of Kant's theory of cognition: given his background commitments about representation and normativity, many of which remain highly attractive, he is right to claim that cognition would be impossible without schemata. I endorse the existing view that schemata are rules for "synthesis of imagination" (i.e. the process in which the mind converts sensory material into complex perceptions of objects) but argue that the existing readings are inadequate. I make the novel proposal that the role of schemata is to impose a *normative* structure on synthesis of imagination. Schemata, I argue, guide our synthesizing in the same way that intentions guide our actions: in Kantian terms, a schema is essentially a "maxim" for synthesis of the imagination. For example, the schema of the concept <daffodil> is a mentally represented rule for producing intuitions of a certain character (about a foot tall, yellow blobs at the top, etc.). When you synthesize sensible material into a unified intuition of a daffodil, you do so "in accordance with" this represented rule, in the same way that your intentional actions are

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<sup>4</sup> For indicative examples see Warnock (1949, p. 81) and Walker (1978, p. 88). Other notable moments in the long tradition of highlighting the Schematism chapter's obscurity include Jacobi (1816, p. 96), Schopenhauer (1818, p. 533) and Adickes (1889, pp. 171–3).

<sup>5</sup> E.g. McDowell (1994, 2009), Land (2006, 2011, 2014, 2015), Grüne (2009, esp. p. 213), Allais (2009, 2015, 2017), Griffith (2012), Tolley (2013, 2017, 2018), Gomes (2014, 2016; Gomes & Stephenson, 2016) and McLearn (2015, 2016b, 2016a). An important exception is Matherne (2014, 2015), whose interpretation I discuss below. See also the brief discussions of schemata in Ginsborg (1997, pp. 44f.) and Hanna (2005, p. 267).

<sup>6</sup> Jakob Sigismund Beck (1761–1840), one of Kant's students in Königsberg and later an important proponent of Kant's philosophy.

carried out “in accordance with” maxims.<sup>7</sup> In the practical domain, the fact that we act “in accordance with” maxims bring our actions into contact with normative moral standards; the purpose of schemata, I argue, is to bring our synthesizing activities into contact with normative *epistemic* standards—schema-guidance makes an individual’s synthesizing classifiable as appropriate in *x* and *y* respects, but inappropriate in *z* respect. In turn, this normative constraint makes it possible for one’s intuitions to represent features that could not be represented if they were produced merely by associative, idiosyncratic dispositions. By bringing synthesis under normative constraint, schemata enable intuitions to possess the kind of content that can match or fail to match a concept (“conceptual content”), thereby fixing which intuitions are classifiable under which concepts. In effect, schemata establish the relations of correspondence between intuitions and concepts that make cognition possible.

I proceed as follows: in Section 2, I provide grounds for thinking that schemata are rules for synthesis of imagination, and clarify what this means. In Section 3, I argue that existing readings in this vein fail to explain adequately the role of schemata—they do not explain how schemata make cognition possible or why Kant would have postulated them. Section 4 examines Kant’s views about “practical propositions” for mathematical construction. These remarks suggest that schemata connect an individual’s synthesizing activities with normative standards, or so I argue. Section 5 sets out my account of how schemata underwrite correspondence-relations, drawing out the connections between normativity, ‘rule-following’ and objective representation. Section 6 deals with objections, pertaining to the unconsciousness of synthesis of imagination and the question of whether it exhibits the kind of freedom required for normative constraint. The Conclusion summarizes my interpretation and assesses Kant’s position from a contemporary perspective. Many of the motivations which led Kant to posit schemata still seem attractive. Therefore, we either need to follow Kant in postulating schemata or give serious thought to where we part ways with him.

## 2. What Is A Schema?

Before explaining the role of schemata, I need to explain what these mental representations are. This remains controversial, with conflicting accounts persisting in the literature. However, I believe there is overwhelming evidence that schemata are *rules for synthesis of*

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<sup>7</sup> Cf. *GMS* 4:400n, 4:412.

*imagination*. Let me first explain what this means, before providing grounds for taking this to be Kant's view.

## 2.1 Explanation

What would it mean for a schema to be a *rule of synthesis of imagination*? In this context, a *rule* is simply a mental representation of a repeatable process. Certain token-processes fall into kinds; there can be mental representations of these process-types; such representations can be called "rules". (I intend the term "rule" to be neutral regarding the role these representations play, e.g. whether they merely describe a process-type or whether they play some role in bringing that process about.)

It is a rather daunting task to explain Kant's notion of *synthesis of imagination*, but let me attempt a brief (and hopefully relatively unpartisan) characterization. Kant conceives of sense-perception as a partly active process: rather than simply receiving perceptions of objects through the senses, the mind must work to convert an array of passively received "impressions" into a unified perception or "image" of an object (as a spatially structured, complex entity that endures through time).<sup>8</sup> "Synthesis" is Kant's general term for producing mental representations by putting together more rudimentary material (A77/B103), so he refers to this activity of combining impressions into perceptions as a kind of *synthesis*. He attributes the synthesis that precedes perception to the *imagination*. (For our purposes, we needn't say much about the other defining characteristics of the faculty of imagination, and can just think of it as "the capacity to carry out this pre-perceptual synthesis".) Perhaps the clearest way to sum up the essential features of synthesis of imagination is in functional terms: it is the mental operation that takes a plurality of "impressions" (Kant also calls this plurality the "manifold of intuition") and produces a perception (or complex "intuition"):

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<sup>8</sup> It remains controversial whether Kant thinks that a rudimentary, non-complex kind of perception is possible prior to this activity. See below.

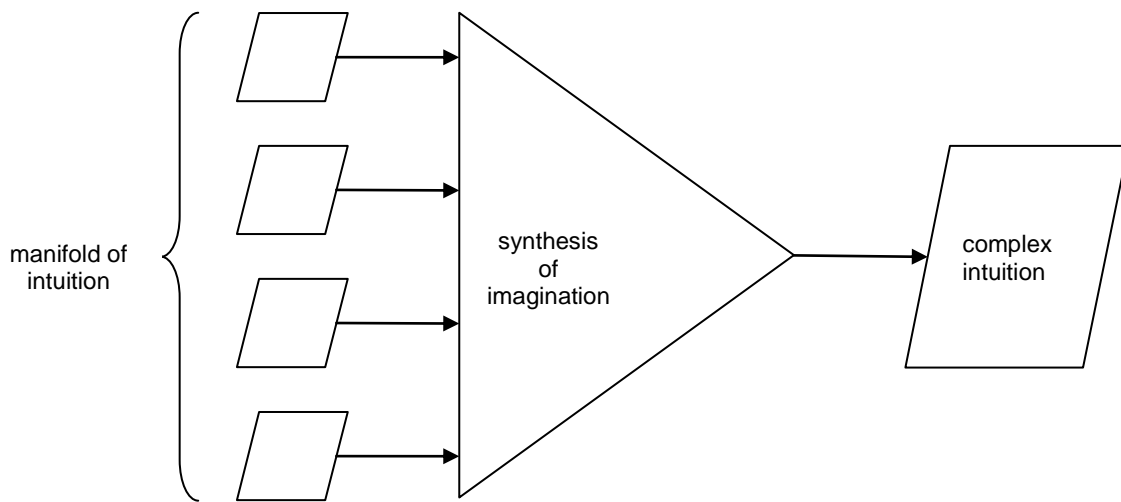


Figure 1. Functional characterization of synthesis of imagination

The *input* to this process—the “manifold of intuition”—is the plurality of non-representational states<sup>9</sup> (“sensations”, “impressions”) that arise when the faculty of sensibility is affected by objects (A120f.). These can be equated with the physiological changes our sense-organs undergo when stimulated by objects.<sup>10</sup> Kant holds that we can also synthesize intuitions of numbers and geometrical objects without drawing on sensations, in which case the structural features of the mind’s receptive capacities, i.e. the spatial and temporal “forms of intuition”, serve as a “pure” manifold of intuition (cf. A99f., B137).

The *output* of synthesis of imagination is a complex intuition.<sup>11</sup> An intuition is a singular representation of a particular object, a representation with spatial and temporal structure. When characterizing synthesis of the imagination, Kant gives the examples of perceiving a house (B162) and “drawing” lines and groups of dots in the mind’s eye (A102, B137f., A140/B179). In each case, the resulting intuition is complex in the sense that it has components, which each represent different features of the object. This complex structure can be mereological, as when the different parts of an intuition of a line each represent a different part of the line; and it can also be non-mereological, as when the visual and tactile sensations

<sup>9</sup> Note that some interpreters hold that these sensations jointly constitute a representation of an object, even prior to synthesis. See below.

<sup>10</sup> Kant talks about “impressions” in physiological terms in his *Anthropology* (7:176). Cf. Horstmann (2018, pp. 18f.).

<sup>11</sup> Kant also uses the term “image” to describe the representations produced through synthesis (cf. A120, A140/B179f.). He glosses “image” as “an intuition that contains a manifold in certain relations” (ÜE 8:201f.). Cf. Matherne (2015).



that make up my intuition of a lump of cinnabar jointly represent the lump as red and as heavy (cf. A100f.).

From a modern standpoint, Kant seems absolutely right to claim that sense-perception requires active mental processing. One of the main tasks of contemporary cognitive science is to trace the series of activities which take us from sensory stimulation to complex perceptual representations of objects. (For a classic example, cf. Marr, 1982.) We can think of Kant's term "synthesis of imagination" as an early formulation of the still-current idea that perception requires *pre-perceptual processing* (and I will sometimes use the latter phrase when considering Kant's account from a contemporary vantage point).

Let me flag up a complication arising from Kant-scholarship. It is controversial whether Kant thinks that *all* of our intuitions depend on synthesis of imagination, or whether we possess some intuitions prior to synthesizing. Some "Nonconceptualist" interpreters hold that the "manifold of intuition" constitutes an intuition even prior to synthesis (despite the fact that the individual "sensations" that make it up are non-representational).<sup>12</sup> Nevertheless, these interpreters agree that synthesis is required in order to reach intuitions that represent their objects *as complex*, and hence the kind of intuitions that are candidates for being subsumed under concepts.<sup>13</sup> The (alleged) intuitions that precede synthesis exhibit a kind of "sensible unity", but they do not present us with objects as unified complexes of features, and hence not as things bearing properties. Consequently, all parties agree that the intuitions which "correspond" to concepts—the kind of perceptual states that allow us to have thoughts about objects—are products of synthesis. The dispute over whether, for Kant, any intuitions can precede synthesis is important, but it can be set aside for our purposes. We can just focus on the fact that synthesis is required for producing intuitions which are *complex* (in the sense just described), while remaining neutral over whether a simpler kind of intuition is possible without synthesis.

We can now spell out what it would mean for a schema to be a rule of synthesis of imagination: it would mean that a schema is a general representation of a procedure for converting non-intentional sensory stimulation ("sensations") into a unified perception of an object (a complex intuition). Returning to our example of seeing a daffodil, the "manifold of intuition" consists of the many firings of photoreceptors caused by light reflected from the

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<sup>12</sup> Nonconceptualists with this view include Tolley (2013, pp. 122f.), Matherne (2015, pp. 32f.), McLearn (2015, pp. 100f.) and Allais (2017, pp. 32f.).

<sup>13</sup> Cf. Tolley (2013, pp. 122f.), McLearn (2015, pp. 98–106) and Allais (2017, pp. 37–44).

flower. "Synthesis of imagination" denotes the sequences of processing that convert these neural signals into a complex perceptual representation. The "schema" of the concept <daffodil> would be a representation of the type of synthesis that is required if we are to generate an intuition of a daffodil.

## 2.2 Evidence

Why should we accept the claim that, for Kant, a schema is a rule for synthesis of imagination? The first reason is the overwhelming textual evidence:

The schema of the triangle [...] signifies a rule of the synthesis of the imagination with regard to pure shapes in space. (A141/B180)

Now this representation of a general procedure of the imagination for providing a concept with its image is what I call the schema for this concept. (A140/B179f.)

In the first passage, Kant explicitly characterizes the schema as a "rule of the synthesis of the imagination". In the second passage, Kant identifies the schema with a "general" "representation" (i.e. a rule) of a "procedure of the imagination"—the context makes it clear that this "procedure" is one of synthesis of imagination. Numerous other passages, which I lack space to analyze here, also support the conclusion that schemata are rules for synthesis of the imagination.<sup>14</sup>

The second reason for thinking that schemata are rules for synthesis of the imagination is that there are serious unresolved objections to the two main rival accounts, namely (i) that schemata are themselves intuitions and (ii) that schemata are rules of subsumption, and thus a kind of concept.<sup>15</sup> Kant claims that schemata are needed to overcome the difference between the *specificity* of intuitions and the *generality* of concepts (cf. A141/B180). If schemata were intuitions, they would be unable to capture the generality of

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<sup>14</sup> See especially Kant's characterizations of empirical schemata (A141/B180) and the schemata of <magnitude> (A142f./B182, A145/B184), <reality> (A143/B182f., A145/B184) and <possibility> (A144/B184, A145/B184).

<sup>15</sup> Proponents of the 'intuition' view include Gram (1968, pp. 83–129), Allison (1981, 1983, pp. 179–85, 2004, pp. 210–8), Gibbons (1994, pp. 53–78) and Pollok (2017, pp. 235–8). (Gram and Allison hold that only the schemata of the categories are intuitions; Gibbons and Pollok hold that all schemata are intuitions.) The 'rules of subsumption' view is favoured by Prichard (1909, pp. 246–55), Bennett (1966, pp. 151f.), Guyer (1987, pp. 162–81) and Horstmann (2018, pp. 58, 64, 86–96).

the representational contents of concepts, and hence would be no help with our initial problem—the relation between schema and concept seems just as puzzling as the relation between intuition and concept that we initially set out to explain. On the other hand, if schemata were concepts or rules of subsumption, then the same problem would arise in the opposite direction—the relation between intuition and schema now seems just as puzzling as the relation between intuition and concept, for which we wanted an explanation.<sup>16</sup> In contrast, it seems fairly unproblematic that a rule for producing intuitions could guarantee the presence of certain features whilst leaving leeway over other features (just as a cake recipe can guarantee the presence of ginger without fixing the cake’s shape).

Admittedly, these briefly stated considerations are unlikely to win over advocates of rival interpretations.<sup>17</sup> So, for the purposes of this article, the claim that schemata are rules for synthesis of imagination should be taken as an assumption rather than an established interpretative fact. Nevertheless, I hope to have shown that this assumption is well motivated. Let’s now proceed to the task of deciding what role these rules play in cognition.

### 3. What Role Do Schemata Play in Cognition?

Why does Kant claim that schemata, i.e. mentally represented rules of synthesis, are required for intuitions to correspond to concepts? Although several commentators have endorsed the view that schemata are rules of synthesis of the imagination,<sup>18</sup> none have adequately answered this question—or so I will argue in this section.

#### 3.1 Suggestive Metaphors

Let’s begin with two prominent commentators who endorse the view that schemata are rules for synthesis of imagination: Martin Heidegger and Béatrice Longuenesse. Heidegger and Longuenesse both explain the function of schemata in metaphorical terms. Heidegger describes them as “governing [*regeln*]” or “dictating [*diktieren*]” the production of images

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<sup>16</sup> Cf. A133/B172 and *KU* 5:169, where Kant explicitly warns that the ability to apply concepts cannot be explained by positing rules of subsumption.

<sup>17</sup> I make the case at greater length in further work.

<sup>18</sup> Cf. Heidegger (1929, pp. 88–113), Young (1984, 1988), Pendlebury (1995), Longuenesse (1998) and Matherne (2015). Longuenesse’s position is somewhat equivocal: many of her remarks suggest that schemata are rules of synthesis of imagination (pp. 13, 50, 116, 39) but other remarks seem to conflict with this (pp. 245, 250, 273, 332, 369, 371). Note also that Allison (2004) holds that empirical and mathematical schemata are rules of synthesis of imagination (but that transcendental schemata are intuitions).

(1929, p. 96). Similarly, Longuenesse describes these rules as “guiding” synthesis of the imagination (1998, p. 117).

These suggestions seem to be on the right track interpretatively speaking: Kant himself describes the imagination as receiving “guidance [*Anleitung*]” from rules (*KU* 5:317). However, Heidegger’s and Longuenesse’s suggestions are metaphorical, and it is far from obvious how to unpack them in literal terms. Heidegger’s choice of terms might suggest interpersonal forms of legislation or administration, in which a rule pronounced by one person becomes legally binding on others. On the other hand, metaphors of governance can be used in completely different contexts, as when we say that a planetary orbit is “governed by gravitational force”. Longuenesse’s metaphor “guidance” can be interpreted in similarly divergent ways: are schemata akin to *guidelines*—represented standards which people consult and follow—or *guide rails*—steel tracks that mechanically lead a train in a certain direction? Heidegger and Longuenesse use suggestive language, but neither of them resolves this ambiguity. Without a univocal, literal account, we have clearly not yet reached an adequate understanding of the function of schemata.

### ***3.2 Rule-Exemplification or Rule-Following?***

Some authors go beyond Heidegger’s and Longuenesse’s metaphors, explaining the relation between schemata and our synthesizing activities in literal terms. As suggested above, the main choice concerns whether to understand this relationship on the model of a planet, whose orbit exemplifies a rule of motion, or on the model of an agent, whose actions follow represented rules.

It will be helpful to map these two options onto notions from Kant’s own philosophy. In the *Groundwork*, Kant claims that there is an essential difference between merely regular processes and an agent’s following of mentally represented rules. All kinds of object “work according to” rules, in the minimal sense of exemplifying causal rules. But “rational beings” are distinguished by the fact that they possess “the capacity to act *in accordance with the representation of*” rules (*GMS* 4:412, Kant’s emphasis).<sup>19</sup> These mentally represented rules that we act “in accordance with” are called “maxims” (*GMS* 4:400n.). It is worth noting that Kant includes some quite sophisticated behaviour within the former, rule-exemplification category. For example, in the third *Critique*, Kant discusses beavers’ ability to construct

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<sup>19</sup> The passage puts the point in terms of “laws” rather than “rules”, but note that for Kant a law is simply a “necessary rule” (A216/B263, *KU* 5:184).

dams. Unlike Descartes, Kant holds that animals like beavers are not mere automata—from the complexity of their activities, we can infer that such animals “act in accordance with *representations*” (*KU* 5:464n, Kant’s emphasis). Nevertheless, Kant insists that non-human animals do not have faculties of reason or understanding<sup>20</sup> and hence do not possess represented *rules*. Their actions should be understood as stemming from “instinct” (*KU* 5:464n.), not from following maxims. So despite being much more complex than the orbit of a planet and despite being governed by a basic kind of mental representation, the behaviour of a beaver is, according to Kant, a case of rule-exemplification but not a case of rule-following: action in accordance with a rule, but not in accordance with a representation of the rule.

With these clarifications in place, we can now express the two options for spelling out Heidegger’s and Longuenesse’s metaphors as follows:

**The Rule-Exemplification Model:** Synthesis of imagination exhibits regular patterns that exemplify schema-rules, but we do not follow represented rules when synthesizing.

**The Rule-Following Model:** Schemata guide synthesis of the imagination in the same way that maxims guide intentional action. When we synthesize, we follow mentally represented rules.

Which model gives us the right account of schemata? To my knowledge, four commentators have taken up this question to date, and all four endorse the Rule-Exemplification Model. J. Michael Young (1988, p. 153) explicitly claims that synthesis of imagination is carried out “in accordance with a rule” but not “in accordance with the conception of a rule”, and the same view is endorsed by Michael Pendlebury (1995, p. 786), Henry Allison (2004, p. 189) and Samantha Matherne (2015, p. 771). On this interpretation, our synthesizing activities are governed by schematic rules in the same sense that an orbiting planet is governed by laws of motion, or a beaver’s activities are governed by behavioural rules: our synthesizing activities exhibit regularities which can be described in terms of rules, but we do not follow

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<sup>20</sup> There are many passages in which Kant denies that non-human animals possess reason or understanding (e.g. A546/B574, *MS* 6:434, *V-Met-K3E/Arnoldt* 29:949, 1017). This is because non-human animals lack self-consciousness, and therefore cannot recognize the similarities between different representations on which general representations depend (*Anth* 7:127, *H* 7:397, *V-Anth/Mron* 25:1215, *Vo-Met/Mron* 29:888f., *V-Met-L1/Pölitz* 28:277f.).

representations of these rules when synthesizing. To return to the daffodil example: the schema of <*daffodil*> represents a certain procedure of synthesis of imagination. On the Rule-Exemplification model, my synthesis matches the procedure the schema represents, but the schema (*qua* mentally represented rule) plays no active, directing role in bringing this about.

Admittedly, there is some *prima facie* motivation for the Rule-Exemplification Model. Its rival, the Rule-Following Model, draws a parallel between synthesis of imagination and intentional action, but the two seem deeply dissimilar. Perhaps the most obvious difference is that we are fundamentally unaware of the mental processes that take us from sensory stimulations to unified perceptions of objects. (In Kant's words, synthesis of imagination is a "blind" process, A78/B103.) In contrast, many paradigm cases of intentional action involve consciousness of what one is doing. When I bake a cake, I am typically aware of my actions and could tell you what I was doing. I will return to this apparent contrast in Section 6.1 (where I argue that the unconsciousness of synthesis is actually no barrier to modelling it on intentional rule-following). For the moment, let me concede that this is a *prima facie* problem for the Rule-Following Model.

However, the Rule-Exemplification Model faces a more serious problem: it seems to make schemata redundant. As already noted, Kant holds that all processes are governed by rules in the minimal sense of exemplifying regularities: "Everything in nature works in accordance with [rules]"<sup>21</sup> (*GMS* 4:412). Yet he does not postulate a "representation of a general procedure" for every one of these processes. A planet needs no representation of the rules of its motion. A beaver needs no representation of the rules exhibited by its dam-building activities. If the mind merely *exemplifies* a certain rule of synthesis of imagination, then Kant would have no reason to postulate a "representation of [this] general procedure of the imagination" (A140/B179f.), i.e. no reason to posit a schema.

To approach the same point from another direction: if I possess a represented rule of synthesis, but don't follow it when synthesizing, then this representation seems totally idle. If we think of the relation between synthesis and schemata on the model of mere exemplification, then no function has yet been given to the latter. Therefore, the Rule-Exemplification Model seems a very long way from explaining how schemata underwrite relations of correspondence between intuitions and concepts. Even more seriously, it makes it fundamentally mysterious why Kant would have postulated schemata at all. Perhaps the

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<sup>21</sup> See fn. 18.

Rule-Exemplification Model could be modified in some way to meet this challenge; however, no existing versions of the interpretation offer any clues for how this could be done, nor do I see any promising lines of response. For the time being, then, the Rule-Exemplification Model faces a serious, unanswered problem. I therefore propose that we pursue the Rule-Following Model, which has so far gone unexplored.

In coming sections, I will argue that the Rule-Following Model has the potential to deliver a satisfying account of why schemata are necessary for establishing relations of correspondence between intuitions and concepts. My focus will be on developing a positive account, rather than arguing against possible alternatives. Other interpretations might be possible, but given the lack of promising suggestions on the table, my aim will be to develop an account which is both philosophically attractive and consonant with Kant's texts.

## **4. Schemata and Normativity in Mathematical Construction**

According to the Rule-Following Model, schemata guide synthesis of imagination in the same way that maxims guide actions. In his practical philosophy, Kant casts maxims as the mental correlates of normative standards ("imperatives"). As a result of being governed by mentally represented rules, human actions can be assessed with reference to these norms: unlike the motions of a planet or the behaviour of a beaver, human actions can be classified as right or wrong, depending on whether the mental rules that guide the actions line up with the norms that apply to them. My positive proposal will be that Kant invokes schemata to fulfil an analogous function in the domain of cognition. Practical maxims connect our actions with *moral* norms; schemata connect our synthesizing activities with *epistemic* norms. To make this plausible, I need to explain how schemata, so construed, establish relations of correspondence between intuitions and concepts (Section 5). I must also address objections to this comparison (Section 6). Before proceeding to those tasks, I present textual evidence that Kant conceived of schemata as connecting our synthesizing activities with normative standards. This evidence comes from his remarks about normative constraint in mathematics.

### ***4.1 Practical Propositions in Mathematics***

Throughout the "Critical" period, Kant makes remarks about "practical propositions" in mathematics. I will begin by arguing that Kant conceives of these as normative requirements for certain acts of mathematical construction (this subsection), before examining how they relate to schemata (Section 4.2).

In the *Critique of Pure Reason*, he writes:

Now in mathematics a postulate is the practical proposition that contains nothing except the synthesis through which we first give ourselves an object and generate its concept, e.g., to describe a circle with a given line from a given point on a plane[.] (A234/B287; cf. *Br* 11:53)

In line with the methodology of his time period, Kant conceives of mathematical inquiry as centring on activities of ‘construction’, in which one represents particular mathematical objects (e.g. circles) in imagination or through diagrams. Kant thinks of mathematical construction as constitutively involving synthesis of imagination.<sup>22</sup> In the quoted passage, he asserts that a “practical proposition” in mathematics concerns one of these acts of construction, e.g. the act of synthesis through which we represent a circle. It is commonplace that Kant’s conception of mathematics is thoroughly informed by the paradigm of Euclidean geometry; consequently, it is fruitful to compare the quotation with Euclid’s *Elements*. On inspection, it seems likely that Kant is talking about the “postulates” from the beginning of that work. Euclid’s postulates are commands (written in the imperative mood) calling for the basic kinds of construction on which the whole proof-structure of the *Elements* depends:

1. To draw a straight line from any point to any point.
2. To produce a finite straight line continuously in a straight line.
3. To describe a circle with any centre and distance. (Euclid, 300BC, p. 154)<sup>23</sup>

So, when Kant talks about “practical propositions” in mathematics, he has in mind the instructions to perform certain constructions that lay at the basis of the mathematical sciences of his era.

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<sup>22</sup> “The image-forming [*bildende*] synthesis through which we construct a triangle in imagination is precisely the same that we exercise in the apprehension of an appearance” (A224/B271). It is less obvious that construction with pencil and paper requires a species of synthesis of imagination; but recall that we must carry out synthesis of imagination to perceive diagrams—and presumably also to construe imperfect diagrams as presentations of perfect mathematical objects. Therefore, a demand to make and use a diagram is *a fortiori* a demand to perform certain acts of synthesis of imagination.

<sup>23</sup> I omit Euclid’s fourth and fifth postulates, which less clearly match Kant’s notion of a “practical proposition”. Note that most 18<sup>th</sup> c. editions of Euclid included these under the heading of “axioms” rather than “postulates” (Dunlop, 2009, pp. 35f.). It is therefore highly likely that, to Kant’s knowledge, Euclid had only three postulates, all of which were imperatival commands for construction.



Why does Kant call these propositions “practical”? They are commands calling for a certain activity, so they certainly have something to do with ‘practice’. But in the second *Critique*, Kant explains that they are “practical” in the further sense of making normative demands on the will. In contrast to the imperatives of morality, mathematical practical propositions do not make *categorical* normative demands. Nevertheless, they are “practical rules under a problematic condition of the will” (*KpV* 5:31), i.e. “hypothetical imperatives” (cf. *GMS* 4:414f.). This means that practical propositions in mathematics are normative rules that are binding on individuals who have adopted certain ends.<sup>24</sup>

What kind of end would I have to adopt, in order to acquire the normative obligation to construct a circle? In the third *Critique*, Kant discusses the fact that “geometrical figures that are drawn in accordance with a principle” serve the “purpose [*Zweck*]” of “solving many problems [*Aufgaben*]” (*KU* 5:362; cf. *GMS* 4:415). From the perspective of Euclidean mathematical practice, it is clear what Kant means. As the reader or student works her way through a treatise like Euclid’s *Elements*, she is continually called on to pursue certain “problems”: tasks which she is commanded (in the imperative mood) to complete, e.g. to construct an equilateral triangle with a given base. After setting a certain problem, the text then details a “solution”, in which the reader is commanded to carry out certain constructions (either the basic constructions specified in the “postulates”, or by complex chains of these provided by the solutions to earlier “problems”). The commands contained in the “solution” will be normatively binding on anyone who has adopted the aim of solving the “problem”. Far from being peculiar to Euclid’s *Elements*, this structure of problems and solutions is a common feature of virtually all mathematical science up to Kant’s day, not least Newton’s *Principia*.<sup>25</sup> In effect, when we practice mathematical science as Kant knew it, we successively adopt a series of pre-specified goals (or “ends [*Zwecke*]”). We then encounter imperational commands, demanding certain acts of construction. If the author has done his or

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<sup>24</sup> In a footnote earlier in the *Critique of Practical Reason*, Kant claims that practical propositions in mathematics “have nothing to do with determining the will” (*KpV* 5:26n). In light of the passage quoted in the main text, it seems most plausible to read this as emphasising that these practical propositions, like all hypothetical imperatives, are only ever *contingently* binding on agents and only due to non-practical matters of fact.

<sup>25</sup> For example, “Problem 1” commands the reader to find a certain point and its solution commands the reader to construct a series of lines, the last two of which intersect at the required point (Newton, 1687, p. 99). A further illustration of the ubiquity of the Euclidean architecture of “theorems” and “problems” in the 18<sup>th</sup> c. is the fact that Kant himself adopts it in his *Metaphysical Foundations of Natural Science* and *Critique of Practical Reason*.

her job correctly, the commands will propose actions that we *really ought* to carry out, given the goal we have just adopted. The mathematical practitioner continually adopts certain epistemic ends and *ipso facto* inherits the various normative demands for construction contained in the “practical propositions” of the treatise. (For someone composing a new treatise, part of the challenge would be to identify what *one ought to do* in order to solve some new series of problems.)

#### ***4.2 Practical Propositions and Schemata***

Having shown that “practical propositions” are epistemic-normative demands structuring mathematical inquiry, I now need to explicate their relation to schemata. The first thing to note is that, according to Kant, the mathematical constructions demanded by practical propositions are kinds of synthesis of imagination. This was explicit in our first quotation about practical propositions: they “contain nothing except the *synthesis* through which” mathematical objects are constructed (A234/B287, emphasis added). So the practical proposition mentioned in this passage is a hypothetical imperative to perform the kind of synthesis of imagination that results in an image of a circle.

What is the relation between the normative demand contained in the practical proposition, and the relevant mathematical schema? If the Rule-Following Model were correct, we would expect this to parallel the relation between a maxim and a moral demand in Kant’s practical philosophy. That would mean that the schema would have the same kind of content as the practical proposition, so as to be capable of meeting or failing to meet the normative demand. The argument of Section 2 supports this conclusion: the schema of the concept *<circle>* is a mentally represented rule for producing an intuition of a circle (cf. A718/B746). Therefore, if I perform a construction in accordance with this schema, the mental rule guiding my acts of synthesis will have precisely the same content as the normative demand that applies to it. On the other hand, if I accidentally follow the schema of *<ellipse>* when I ought to construct a circle, there will be a mismatch between the normative demand and my rule of activity, and I will have failed to meet my practical-cum-epistemic obligations. So in terms of content, the relation between mathematical practical propositions and schemata fits the Rule-Following Model.

Further evidence that schemata play a parallel role to maxims comes in a letter from Kant to Marcus Herz in 1789. In it, Kant discusses mathematical concepts, and why possessing them makes us susceptible to normative demands for construction:

[I]t is not the case that the possibility of a circle has a merely problematic status prior to the practical proposition: to describe a circle by moving a straight line around a fixed point. The possibility of a circle is *given* [Kant's emphasis] in the definition of a circle, due to the fact that the circle can be constructed by means of the definition itself, i.e. portrayed in intuition [...] in the imagination (a priori). [...] The proposition: to describe a circle is a practical corollary from the definition (termed a postulate), which *could not be demanded* [emphasis added] were it not the case that the possibility, and even the way that the figure is possible, is already given in the concept. (*Br* 11:53)

The first important claim concerns the relation between the concept <circle> and the mental rule for constructing circles, i.e. the schema. In asserting that “the circle can be constructed by means of the definition itself”, Kant is implying that, when we define a mathematical concept, we fix not only its logical marks but also the schema that accompanies it (cf. A729/B757): no one has grasped the definition of the concept <circle> unless they have acquired the schema for that concept. The next important claim concerns the relation between the schema of <circle> and the practical proposition which demands that a circle be constructed. Kant asserts that if the definition didn't already supply us with the rule of construction (i.e. schema), it “could not be demanded” of us to construct a circle: the normative demand contained in the practical proposition only applies to us because we possess the relevant schema. One dimension of this is simply Kant's famous dictum that “ought implies can”:<sup>26</sup> I could not be obligated to construct a circle if it were not possible for me to do so. But another dimension is the implication that it is the schema that puts my activities in touch with normative demands: if I did not possess this mentally represented rule of construction, then I could not be subject to the normative demand to construct a circle. Here we have a further respect in which the schema parallels the role of a maxim. Only because our activities are “guided” by these rules are those activities normatively assessable with respect to imperatives. This means that mathematical schemata put our constructing activities in touch with normative standards—they render those activities susceptible to normative assessment in comparison with imperatives. This will be at the core of my positive account of the function of schemata, and clearly supports the idea that schemata stand to synthesis as maxims stand to action.

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<sup>26</sup> Cf. *KpV* 5:31.

## 5. Representation, Normativity and Rule-Following

I have now offered reasons for pursuing the Rule-Following Model, i.e. the interpretation that schemata guide synthesis in the same sense that maxims guide action. My task now is to explain how schemata, construed in this way, could establish the relations of correspondence between intuitions and concepts that make cognition possible. This section argues that, by connecting synthesis of imagination with normative constraints, schemata make it possible for intuitions to have new kinds of content. Only intuitions whose production is led by schemata can represent objects *as* having *kind-properties* and *objective temporal structures* (explained below). Because these are the features that concepts represent, only synthesis guided by schemata can yield intuitions that correspond to concepts.

My argument comprises the following steps. (1) Intuitions need to represent 'kind-properties' and 'objective temporal structures', in order to correspond to concepts. (2) Synthesis of imagination is needed in order to produce intuitions of sufficient complexity to have these contents. (3) Synthesis of imagination needs to be subject to normative constraint for these intuitions to have objective representational purport, rather than being a "subjective play of imaginings". (4) Schemata, guiding synthesis in the same sense that maxims guide action, are needed for synthesis to stand under normative constraints.

### 5.1 Correspondence Requires 'Conceptual Content'

At the beginning of the Schematism chapter, Kant gives the following gloss on the notion of correspondence:

[T]he concept must contain that which is represented in the object that is to be subsumed under it, for that is just what is meant by the expression "an object is contained under a concept." (A137/B176)

For it to be appropriate to subsume an object under a concept, the concept must match the content of our other representations of said object. The object must be represented as exemplifying whatever features are "contained" in the concept, i.e. the features that figure in the intension or content of the concept. Let's return to our main example to see what these features would be. The concept <daffodil> represents a certain property (viz. daffodil-hood) which is possessed by a certain kind of object (viz. daffodils). The same goes for all concepts,

because, according to Kant, all concepts are general in their content.<sup>27</sup> Every concept represents some property, which is exemplified by a certain kind of object (henceforth a “kind-property”).

So what would it mean for an object presented in an intuition to be “contained under” some concept? Well, “that which is represented in the object” must match the content of the concept. In other words, the intuition has to represent the object as exemplifying the relevant kind-property. For example, for an intuition to correspond to the concept <daffodil>, it would have to represent its object as possessing the property of daffodil-hood. In general, an intuition can only correspond to a concept if it represents its object as having the relevant kind-property.

It will be instructive to consider a class of concepts with a special status for Kant: the categories. The categories are a set of *a priori* concepts deriving from the logical structures that pervade our propositionally-structured thoughts. Kant holds that the categories include concepts such as <substance>, <cause> and <quantity>, and that all of these concepts can connect with perceptible objects by dint of being associated with certain temporal structures. (As we will see, Kant holds that schemata play a crucial role in this association.) For example, in order for an object to fall under the concept <substance> it must have the temporal property of permanence, i.e. it must go on existing throughout time despite changes in its other properties. This is an *objective* temporal property of the object—it pertains to the temporal structure it actually has in the objective, public world of experience (not just the temporal structure of some individual’s perception of it). So, for an intuition to correspond to a category, the kind-property it must represent is an objective temporal property (henceforth an “objective temporal structure”). Kant holds that all of the objects we perceive stand under categories (e.g. B161f.), so the representation of these objective temporal structures will be a pervasive feature of perception.

To sum up, for an intuition to correspond to any concept, it must represent its object as possessing the relevant kind-property. For it to correspond to a category, it must represent its object as possessing the relevant objective temporal structure. Let me use the term “conceptual content” to refer to these, i.e. the kinds of content in virtue of which intuitions correspond to concepts (or equivalently, the kinds of content pertaining to features that can be represented by concepts).

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<sup>27</sup> Cf. Kant’s insistence that there are no “singular” concepts, only singular *uses* of concepts (*Log* 9:91; *V-Lo/Pölit* 24:567; *V-Lo/Wiener* 24:904f., 908f.). Cf. Thompson (1972) for helpful discussion.

## 5.2 Conceptual Content Requires Synthesis of Imagination

Let me now highlight the ways in which synthesis of imagination is required, in order for us to produce intuitions that represent kind-properties and objective temporal structures.<sup>28</sup>

Firstly, to represent an object as bearing a property, an intuition would need to represent the object as something over and above any one property it possesses. This might be achieved by linking this property to a certain impenetrable region of space, or to other properties. Let's return to the daffodil: to perceive its petals as yellow, I need to perceive them as *things* over and above their yellowness. Perhaps I do this seeing the petals not only as yellow, but also as having a certain texture and smell, or as filling a certain region of space. Kant holds that this requires synthesis of imagination, because "the combination [...] of a manifold [...] can never come to us through the senses" (B129): a serious amount of mental processing is required before the diverse streams of sensory information coming from our sense-organs can represent a plurality of features as co-present in one object.<sup>29</sup>

Secondly, the intuition would need to represent its object as persisting through time. This is fairly obvious in the case of the objective temporal structures that correspond to the categories. For example, to perceive something as persisting through time (and hence as a substance), one would need to join together temporally dispersed sensory information relating to the present and the past. But a similar point holds for more everyday properties. Imagine someone whose eyes track a seagull as it swoops around, but who is unable to construe this stream of sightings as belonging together or forming a unity. Even if we allow that this person is in some sense seeing an object, it seems highly doubtful that they are seeing it *as a seagull*: intuitively, to construe something as a seagull, one must show an implicit grasp that seagulls are things which fly around, showing up in perception as moving figures.<sup>30</sup> Kant

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<sup>28</sup> For related discussion, cf. Strawson (1971), Sellars (1978), McLear (2015, pp. 99f.) and Allais (2017, pp. 39f.).

<sup>29</sup> Note that Allais (2017) disputes whether the "binding" of different streams of sensory information counts as "synthesis", but does not dispute the key claim that synthesis is required for us to perceive a thing as a bearer of properties.

<sup>30</sup> Is this just because <seagull> is a substance-concept? No. Consider an event-concept such as <lightning>. If I didn't link the forked flash of light with the darkness that precedes and follows it, I would not be construing it in a manner that differentiates it from the very different optically possible phenomenon of a fork of light lingering in the sky for hours on end. If so, it seems doubtful that I would genuinely be construing it as lightning.

refers to this function of linking present and past material as “synthesis of reproduction”, and assigns it to the imagination (e.g. A102).

Thirdly, to represent a property as belonging to an object, an intuition will oftentimes have to represent the property as continuing to exist even during moments when it is not manifest. For example, I will continue to be aware of the stem of a daffodil as a unified streak of green even while it is partly occluded by my hand. It’s plausible that if one totally fails to represent objects as having a property with this minimal kind of constancy, then one fails to represent it as having a property at all (and one is at best aware of the subjective character of one’s state of mind).<sup>31</sup> It’s also plausible that, to achieve this minimal constancy, the imagination would have to supplement the patchy stream of incoming sensory impressions with material from past sensation.

Fourthly, at least in the vast majority of cases, perceiving properties is bound up with having certain types of expectation. To see something as made of glass is in part to have certain expectations about how it would feel to the touch or how it would change if I dropped it onto a stone floor. To perceive something as a tomato is in part to have expectations about how it would look from another direction. When a lump of metal feels heavy, this not just a simple tactile sensation; it is bound up with diverse expectations about how you can manipulate it with your hands, what it would feel like to do so, and how it would move if dropped or placed on a slope. Once again, it’s plausible to think of the imagination as supplying the material for these expectations (and Kant certainly thinks of expectation as relying on the imagination, *Anth* 7:185–7).

In all of these ways (and more<sup>32</sup>), Kant would insist that the imagination must actively synthesize sensory impressions to yield an intuition of an object as bearing a kind-property or

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<sup>31</sup> Might there be some concepts that pick out properties lacking this ‘minimal constancy’, e.g. the concept <currently tastes of pistachio to me>? In the human case, it’s plausible that such concepts are logically constructed out of concepts that *do* represent minimally constant properties. If a creature’s basic perceptual construals grouped objects along the lines of such non-constant properties, it seems arguable that the creature would fail to perceive the objects as bearing properties, rather than merely responding to the subjective character of its perceptions (cf. Burge, 2010).

<sup>32</sup> The most important dimension of synthesis of imagination not explored in the main text is Kant’s claim that we need to perform synthesis in order to perceive shape, an activity which he apparently models on geometric construction (A102, B137f., B162). It is fully orthodox in modern cognitive science that pre-perceptual processing is required before we can construe objects in terms of lines and edges or as having three-dimensional form. However, some Nonconceptualist readers have recently questioned whether Kant includes the spatial

objective temporal structure: intuitions with conceptual content presuppose synthesis of imagination.<sup>33</sup> From a contemporary vantage point, it also seems plausible that the mind is active when we perceive things as bearing properties and as temporally structured. We might shy away from using the term “imagination” to refer to the capacities that perform this pre-perceptual processing, but aside from that terminological difference, we can more or less endorse Kant's ideas.

### 5.3 To Produce Conceptual Content, Synthesis Must Be Normatively Constrained

Although synthesis of imagination is a *necessary* condition for producing intuitions with conceptual content, I will now argue that not every kind of synthesis can achieve this feat. If synthesis unfolds in an arbitrary manner (in a sense to be sketched below), the result is a complex representational vehicle but one which fails to represent its object as a unified complex.

To see why, we need to draw a distinction between *jointly representing* a plurality of features, and representing that plurality as *objectively unified*. This distinction is best illustrated with an example. Consider Jones, who for many years predominantly saw daffodils in a garden where they stood alongside a Japanese maple. Nowadays, whenever he sees a daffodil, he is reminded of the Japanese maple and the deep red of its leaves. The result is that Jones's imagination actively combines the sensory material pertaining to daffodils with extraneous sensory material pertaining to the Japanese maple: whenever he has an intuition of a daffodil, he also imaginatively recalls the splashes of red that so often accompanied them in the past. Now, it seems compatible with all of this to suppose that Jones *does not* perceive daffodils as instantiating the redness of the Japanese maple, or even as standing in any genuine objective connection to that colour. When Jones's imagination fuses sensory information into a perception of a daffodil, it *also* reproduces sensory information pertaining to the maple's redness, but this *joint representation* of daffodils and redness does not entail that he perceives them as *objectively unified*.

One might at first suspect that Jones fails to represent the daffodil as bearing redness because he doesn't link the redness with the spatial region occupied by the daffodil. But if we

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ordering of sensible material under the umbrella of synthesis of imagination (e.g. Allais, 2017, p. 32). It's beyond the scope of this article to address this controversial point.

<sup>33</sup> At the risk of repeating myself, this claim is endorsed even by the Nonconceptualist interpreters who think Kant endorses a more rudimentary kind of intuition that does not depend on synthesis.



vary the example, we can see that this is not the decisive factor: whenever Jones's nephew visits, he playfully pretends that a certain potted daffodil is speaking in a gruff Welsh accent. Now, when he glances at the daffodil on his shelf, he imagines that gruff voice emanating from it. For all this, we clearly don't need to think of Jones as undergoing a perceptual illusion. This playful or habitual imaginative combination needn't amount to representing the daffodil as speaking.

So what *does* account for the difference between joint representing and representing as objectively unified? I propose that the difference comes down to the presence or absence of certain normative constraints. When the imagination's combinations are a function of Jones's personal history or his playful, arbitrary choices, they obviously do not reflect anything about the object. This has a causal dimension: a different upbringing might have caused him to associate daffodils with the blueness of bluebells instead (or to imagine a New Jersey accent instead of a Welsh one). But it also has a normative dimension: Jones is not normatively assessable for the features he associates with the daffodil. There is nothing either defective or appropriate about his linking of daffodils with the Maple's redness or with the Welsh accent. He could have linked daffodils with different features, and he could have done so *faultlessly*. In contrast, when Jones construes the daffodil as firm in texture, it seems that he does so in a manner that makes this mental activity normatively assessable (such that it would be inappropriate to construe the daffodil as blazing hot to the touch, for example). Therefore, the difference between merely jointly representing these features and representing them as objectively unified in the object seems intimately connected with whether the combinations are normatively assessable.

My proposal is that it is in virtue of not being assessable as appropriate or inappropriate that Jones's playful and habitual imaginings fail to represent combinations in the object. Conversely, synthesis of imagination can only represent combinations in the object when it is subject to normative constraint. This proposal is of course controversial: not everyone would accept that objective perceptual representation requires normative constraint. On the other hand, it is not without its proponents. Particularly in the wake of certain readings of Wittgenstein's 'rule-following considerations', the idea that objective representational purport is bound up with normativity has found many defenders.<sup>34</sup> Reflecting on Jones and

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<sup>34</sup> E.g. Sellars (1954), Kripke (1982), Blackburn (1984), McDowell (1984b, 1994), Wright (1984), Burge (1986), Boghossian (1989, 2003), Brandom (1994), Haugeland (1998, Chapter 13), Gibbard (2003, 2012), Wedgwood (2007, Chapter 7) and Ginsborg (2012).

his daffodils, this certainly seems like a promising way to explain the difference between jointly representing and representing as unified.

There is also evidence that Kant himself thinks about the relation between synthesis, representation and rule-following in this way. In the Second Analogy of Experience, Kant focuses on the kind of synthesis required for us to perceive an event, i.e. an object as undergoing a change from one state to another.<sup>35</sup> Firstly, to perceive an event, we must put together a representation of the object's initial state (e.g. an intact snowman) and its final state (e.g. a melted snowman). The imagination needs to connect the images of these two states into a temporally extended complex. But the imagination has the power to connect the images either way round: it "can combine the two states in question in two different ways, so that either one or the other precedes in time" (B233). In this sense, the "connection of the manifold" threatens to be "entirely arbitrary" (A193/B238). If nothing removes this arbitrariness then the resulting perception, although complex, would be

only a subjective play of my imaginings, and if I still represented something objective by it I would have to call it a mere dream. (A201f./B247)

On this basis, Kant argues that we would be unable to perceive events were it not for the fact that the understanding imposes a kind of "necessity" on the imagination (in contrast to the "arbitrariness" it would have if left to its own devices). As I have argued at length elsewhere,<sup>36</sup> the "arbitrariness" of synthesis is removed because the understanding imposes a structure of epistemic normativity on the imagination's activities. In particular, the concept <cause> is bound up with certain normative rules for inference: "what the concept of cause says" is "that one thing [is] such that, if it is posited, a second thing must thereby necessarily be posited" (*Prol* 4:257). When I make certain causal presuppositions, I incur an obligation to infer that a certain event occurs. Because making an empirical judgment involves a certain "synthesis of perceptions" (B218, A764/B792), this obligation also applies to my imagination: it becomes epistemically obligatory to combine the perceptual material one way rather than another (e.g. to place the image of the intact snowman before that of the melted snowman). With this framework in place, the imagination's combinations are no longer arbitrary but normatively necessary, in the sense of being assessable as rationally appropriate or inappropriate. It is in this way that the concept <cause> is indispensable for representing

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<sup>35</sup> That all events are changes of state in enduring objects is a conclusion from the First Analogy.

<sup>36</sup> Hutton (2018) = Chapter 1.

objective temporal sequence. By imposing normative constraints on the imagination's synthesis, it allows us to perceive an objective temporal structure that could not otherwise be represented.

If this reading of the Second Analogy is correct, then Kant himself endorses the need for normative constraint in order for synthesis of imagination to yield representations of a certain kind of objective unity. My proposal in this subsection is simply that we should generalize this point to all of the kinds of conceptual content. If the imagination combines sensory material according to arbitrary or potentially idiosyncratic patterns of association, the end-product is an intuition that fails to represent a complex of features as objectively unified. The imagination's synthesis must be subject to normative constraints for the resulting intuition to represent an object as having a kind-property or exhibiting an objective temporal structure. I hope to have shown that this proposal is both philosophically attractive and plausible as a reading of Kant.

#### ***5.4 Normative Constraint Requires Schemata***

So far, I have presented a case for thinking that, unless synthesis is normatively constrained, intuitions cannot have conceptual content, and hence cannot stand in relations of correspondence to concepts. The final step is to explain why this creates a need for schemata, guiding synthesis in the same way that maxims guide action.

We have already highlighted the fact that Kant draws a fundamental distinction between those processes that merely “work according to” rules and those processes that happen “according to representations of” rules. Kant holds that the blind workings of nature—the orbits of planets or even the activities of beavers—cannot be subject to normative constraints:

It is impossible that something in [nature] **ought to be** other than what [...] it in fact is; indeed, the **ought**, if one has merely the course of nature before one's eyes, has no significance whatever. (A547/B575)

This is because the notion of normativity presupposes a “ground” of action that is different from the efficient causation of nature:

Now this “ought” expresses a possible action, the ground of which is nothing other than a mere concept, whereas the ground of a merely natural action must always be an appearance. (A547f./B575f.)

This distinction between “the ground of a merely natural action” and “the ground [...] which is nothing other than a mere concept” parallels the aforementioned distinction between “working according to” rules and working “according to representations of” rules. Kant is asserting that there cannot be normative constraint in the former category of mere rule-exemplification, but only in the latter category of rule-following.

Synthesis of imagination needs to be subject to normative constraints in order to produce intuitions with conceptual contents; for an activity to be subject to normative constraints, it must be guided by a mentally represented rule. It follows that, by Kant's lights, we need to follow mentally represented rules of synthesis—schemata—in order to achieve intuitions with conceptual contents. Schemata, functioning in the way predicted by the Rule-Following Model, are needed to remove the arbitrariness of synthesis of imagination and render synthesis normatively assessable.

With this final part of the proposal in place, we can now explain how schemata establish relations of correspondence between intuitions and concepts. Every concept is associated with a schema (excluding any “ideas” that are incapable of being applied to the world encountered through perception). The schema is a mentally represented procedure of synthesis for producing a certain kind of complex intuition, so when I synthesise according to the schema, the end product is an intuition that jointly represents a plurality of sensible features. What's more, when I synthesize according to the schema, my synthesizing is normatively assessable as appropriate or inappropriate. This makes it possible for the combinations introduced through synthesis to have the semantic significance of representing objective unities, including representing objects as bearing kind-properties or exhibiting objective temporal structures. In this way, intuitions produced according to a schema can have certain kind of conceptual content. We will need to explain in a moment how it is that the concept of *<F-ness>* gets associated with the right schema (i.e. the one that, when followed, results in an intuition of F-ness). But taking that link for granted for a moment, we can specify the following interesting biconditional:

**Correspondence:** An intuition corresponds to a concept iff it was produced in accordance with the schema of that concept.

Let's return to our example. The concept *<daffodil>* is linked to a certain schema. The schema is a mental representation of how to produce a certain kind of complex intuition, viz. by linking sensations of yellow and green into a certain three-dimensional spatial form

(roughly a foot tall); by supplying expectations about how this object would look from the back or feel to the touch; by uniting present visual information with that from a moment ago; etc.. When the imagination carries out this procedure “in accordance with” the schema, its activities become normatively assessable (as appropriate in *x* and *y* respects, but inappropriate in *z* respect). This imbues the resulting complex intuition with the semantic significance of representing a whole range of features—the yellow, the green, the texture—as co-present in an object and objectively linked in various determinate ways—into a flower-shaped whole which more-or-less persists through time, but which might wilt or get trampled.

Consequently, the intuition represents its object as having the property of daffodil-hood. This means that an intuition produced according to this schema will correspond to the concept *<daffodil>*: it will present an object in a way that renders it classifiable as a daffodil.

Now, what explains how the concept *<daffodil>* gets linked up with exactly the right schema (so that intuitions produced according to that concept’s schema match the content of the concept)? In the case of sensible concepts like *<daffodil>*, we can actually think of the schema as fixing the content of the concept. The word “daffodil” and its mental correlate would not represent daffodil-hood if they were not associated with the rule for arranging the sensory manifold into intuitions of that property. If that kind of linguistic or mental vehicle were instead related to the schema for producing intuitions of pineapples, then it would be the concept *<pineapple>* and not the concept *<daffodil>*. Consequently, we are entitled to take for granted the association between schema and concept. Being associated with that schema is part of what makes it the concept *<daffodil>*, and it does not make sense to ask *of that concept* how it came to be associated with that schema. This means that schemata not only facilitate subsumption but fix the semantic relations between concepts and perceptible objects.

In contrast to sensible concepts, there does seem to be a genuine question about the association between the categories and their schemata. What links the logical content that is essential to the category with the objective temporal structure one represents by following its schema? (E.g. what links the logical property of being a substance, viz. being something that can never be predicated of something else, with the temporal structure of being permanent?) It seems non-trivial that the schema matches the content of the concept, so we need an explanation of why intuitions synthesized according to the schema are guaranteed to instantiate the concept. I lack space to pursue this question here. One promising response, proposed by Allison (1981, pp. 76–82), is that Kant’s list of transcendental schemata presupposes a set of (synthetic *a priori*) facts to the effect that everything with such-and-such

temporal form (e.g. which persists throughout time) also instantiates such-and-such logical criteria (e.g. it can never be predicated of anything else, but can only serve as a subject of predication).

To sum up the argument of this section (1) an intuition will only correspond to a concept if it has conceptual content (matching the content of the concept); (2) such intuitions presuppose synthesis of imagination; (3) merely associative synthesis of imagination would not result in intuitions with conceptual content; only if synthesis of imagination is subject to normative constraint can it could produce intuitions with conceptual content; (4) by connecting synthesis of imagination with normative standards, schemata make possible intuitions with conceptual content, and thereby underwrite the relations of correspondence between intuitions and concepts that make cognition possible. On this reading, schemata play an indispensable role within Kant's theory of cognition, and Kant has solid motivations for positing them.

## 6. Objections and Replies

In this section, I deal with what I take to be the two most pressing objections, arising from apparent disanalogies between synthesis of imagination and rule-following pertaining to *unconsciousness* and *freedom*.

### 6.1 Unconsciousness

We are not typically aware of the pre-perceptual processing that takes us from sensory stimulations to complex perceptions of objects. In so far as we can become aware of them, this is only by means of the hard graft of philosophical and scientific reflection, and does not afford us first-person, conscious awareness of those activities. Kant freely admits this fact about synthesis of imagination, characterizing it as “a blind [...] function of the soul” (A78/B103) and “a hidden art in the depths of the human soul, whose true operations we can divine from nature and lay unveiled before our eyes only with difficulty” (A141/B180f.).<sup>37</sup>

The unconsciousness of synthesis of imagination apparently stands in sharp contrast to paradigm cases of intentional action. To repeat an example given earlier, when I bake a cake, I am typically aware of my actions and could tell you what I was doing. We might even

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<sup>37</sup> The latter is a characterization of “schematism”, i.e. the mental operations in which concepts and schemata work in tandem. I take it that this involves a kind of synthesis of imagination.

think that the very idea of intentional action—of carrying out the plan embodied in an intention—entails consciousness of what one is doing. According to the Rule-Following Model, schemata guide synthesis in the same way that intentions (or maxims) guide action. Doesn't the unconsciousness of synthesis of imagination, and our lack of immediate access to the procedures we are carrying out, show that the Rule-Following Model is ill conceived?

As mentioned in Section 3.2, I believe this *prima facie* problem can be dispelled: firstly, because there is evidence that Kant does not understand rule-following as involving consciousness; and secondly, because contemporary philosophy of action provides accounts of rule-following that seem applicable to pre-perceptual processing.

I begin with the interpretative point. It is sometimes assumed that, because of his focus on “acting on maxims”, Kant’s whole conception of human life is at odds with the findings of modern psychology (Greene, 2007; Haidt, 2001). Kant, it is assumed, thinks of human life as dominated by conscious reflection on rules, whereas modern psychology shows that relatively few of our everyday activities are under conscious, reflective control (cf. Bargh & Chartrand, 1999; Wilson, 2002). A more careful reading of Kant gives the lie to this interpretation. Kant holds that we are not typically aware of the maxims we are acting on. Far from having direct, conscious access to our maxims, Kant writes that it takes “the most strenuous self-examination” to reach conclusions about our motives and that even this is at best an unreliable guide to “those inner principles of action, that one does not see” (*GMS* 4:407; cf. *MS* 6:392f.). It follows that acting on a maxim does not involve consciousness of what one is doing. Like synthesis of imagination, the “true operations” of our practical rule-following can be “[laid] unveiled before our eyes only with difficulty” (A141/B180f.).<sup>38</sup> Therefore, in Kant’s eyes, the unconsciousness of synthesis of imagination should be no barrier to equating schema-guidance with maxim-guidance.

Having shown that even Kant’s practical philosophy calls for a notion of rule-following without consciousness, the question still remains of whether we can make philosophical sense of this idea. To my mind, Kant gives us no worked-out account of this

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<sup>38</sup> Further illustration comes in the *Anthropology*, where Kant considers “a musician play[ing] a fantasy on the organ with ten fingers and both feet and also speak[ing] with someone standing next to him” (7:136). Kant infers that the organist’s harmonious choice of notes must be based on “judgment[s]” of “appropriateness”. Yet the organist is certainly not *consciously* guided by these judgments—this is the point of mentioning the added distraction of holding conversation, and the fact that the organist is unable to convey what he was playing in the form of “written notation”. On the contrary, Kant uses the example to illustrate the pervasive role of unconscious representations in our mental lives (7:135).

idea, so we need to look beyond his work to allay this worry. Contemporary philosophers sometimes appeal to the idea that when someone is absorbed in an activity that they can handle without much effort, they lack a kind of conscious awareness of what they are doing. When I cycle the familiar route home from the library, I might not even notice the bends in the road to which I respond, or the way that I change gears and vary the rhythm of peddling to cope with the rolling gradients. Nevertheless, it seems that these very activities are things I *do* in the course of carrying out my intention to cycle home. (As mentioned above, empirical findings suggest that many more of our everyday activities fall into this category of unconscious doing than we might have expected.) Some philosophers respond to cases like these by denying that human action typically involves anything like following mentally represented rules (cf. Dreyfus & Dreyfuss, 1988). However, another possible route is to give an account of rule-following that does not presuppose conscious, reflective awareness of what one is doing. This route has been pursued by Peter Railton, who develops a notion of being guided by a mentally represented 'norm' in terms of a disposition

to notice failures to comply with [the norm], to feel discomfort when this occurs, and to exert effort to establish conformity with [the norm] even when the departure from [the norm] is unsanctioned and non-consequential. (2006, p. 13)

This looks like a promising way to capture the phenomena of everyday life while preserving the idea that we are often guided by mentally represented rules.

Is it plausible that pre-perceptual processing (i.e. synthesis of imagination) involves rule-following in something like this sense? I lack the space to explore this fully, but here is a kind of case which supports thinking of pre-perceptual processing in these terms. Every so often, we encounter scenes that do not immediately make perceptual sense, so that we are not initially sure what we are seeing. When this happens, we feel a kind of low-level discomfort as we 'strain our eyes' and 'rack our brains' to get the disparate shapes and colours to snap into a place. Commenting on Kant's views of synthesis of imagination, Maurice Merleau-Ponty describes the experience of walking "along a shore towards a ship which has run aground, and the funnel or masts merge into the forest bordering on the sand dune": one can see the funnel and masts, but doesn't initially see them as parts of a ship. Initially, one has "a vague feeling of uneasiness", a feeling "that something [is] imminent in this tension". But then "these details suddenly become part of the ship, and indissolubly fused with it"; they "c[o]me together to form a continuous picture of the upper part of the ship" (1945, p. 20).



Once this happens, one is no longer seeing nonsensical shapes and colours, but perceiving a ship by means of them.

Combining Railton's account of rule-following with my proposed reading of Kantian schemata, we can explain this phenomenon as follows. To begin with, your unconscious, pre-perceptual processing puts the perceived material together in some haphazard way. So far, this processing doesn't conform to any schema you possess (except perhaps a few highly abstract transcendental schemata and low-level schemata relating to visual qualities of shape and colour). Consequently, the resulting perceptual experience fails to represent the things seen as falling under any concept (except perhaps certain categories and basic visual concepts). This causes you a vague discomfort, and you exert some effort to push your pre-perceptual processing into conformity with some schema-rule. You gather more perceptual material and play with different ways of associating it, until suddenly your unconscious, pre-perceptual processes hit on the solution of following the schema of *<steam ship>*. Now you enjoy a perception of the object *as a steam ship*.

If my reading of schemata is accepted, then there is more work to be done here. We would need to specify which schematic rules an individual is typically following in the course of everyday experience, and what epistemic structure provides the impetus to construe objects in ways that cohere with our broader understanding of the world (e.g. that steam-ships sometimes run aground, but that funnel-shaped blobs don't float in the air). Nevertheless, Railton's account of rule-following gives us a promising line of approach, one that seems consonant with Kant's own position. It seems that there is plenty we can say to reconcile the unconsciousness of synthesis of imagination with rule-following.

## 6.2 Freedom

Having dealt with unconsciousness, let's move on to freedom. Kant holds that, for an activity to be subject to normative constraint—at least the kind of normative constraint that can be expressed in “should” statements—that activity must be *free* (e.g. A534/B563). In the moral domain, Kant argues that our actions stem from the will, which is free in the full practical sense of being autonomous. However, it seems questionable whether the faculties responsible for synthesis of imagination are free in the same sense. But if synthesis of imagination is not free, then it cannot be normatively constrained in the way I have suggested.

The least ambitious way to respond to this objection is to point out that, at least some of the time, activities of synthesis of imagination *are* under control of the will, and hence are

just as free as any other actions attributable to that faculty. A case in point would be the deliberate acts of mathematical construction discussed in Section 4: one can actively decide to perform one specific kind of construction, e.g. constructing a hexagon. There might also be dimensions of visual perception that are similarly under volitional control. For example, when viewing an ambiguous drawing such as a Necker cube or duck-rabbit, one can switch back and forth at will between the two kinds of aspect-seeing the drawings afford. Forms of synthesis of imagination that are freely chosen in these ways seem clearly capable of being subject to normative standards, e.g. hypothetical imperatives relating to the ends the individual adopts.

However, it's plausible that such cases—in which synthesis is under volitional control—are the exception rather than the rule. In the vast majority of cases, we cannot alter the way we assemble and construe perceptual material at will. In our example of seeing a daffodil, there is little or no possibility of shifting between perceptual aspects; it presents itself to me as a daffodil whether I like it or not. And yet this is exactly the kind of case that my proposed account of schemata is supposed to cover. So is it tenable to claim that synthesis of imagination has the freedom requisite for normative constraint even when it is not under volitional control?

To make this plausible, let me begin with a clear case in which Kant attributes normative constraint (and *a fortiori* the kind of freedom requisite for normative constraint) without voluntariness: aesthetic judgment. Kant holds that when we judge that *x* is beautiful, this “must be combined with a claim to subjective universality” (*KU* 5:212). This “claim” “does not say that everyone **will** concur with our judgment but that everyone **should** agree with it” (*KU* 5:239, Kant's emphasis; cf. *KU* 5:237). Aesthetic judgments implicitly contain *normative* judgments about the aesthetic judgments of others. If I'm right to judge this greyhound as beautiful, then this means that everyone else ought also to judge it beautiful.<sup>39</sup> Kant evidently thinks that some aesthetic judgments *are* valid—he is not an error-theorist about beauty. It follows that he thinks there are some normative facts about what objects we should judge beautiful, and *a fortiori* that our capacity for aesthetic judgment is subject to normative constraint. Yet Kant insists aesthetic judgment is not linked to volition: anything

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<sup>39</sup> Kant cashes out this normative demand via the idea of “*sensus communis*”: anyone who doesn't feel disinterested pleasure towards a beautiful object must be lacking the “disposition [*Stimmung*]” of imagination and understanding that is “optimal for the animation of both powers of the mind [...] with a view to [*in Absicht auf*] cognition” (*KU* 5:238).

grounded in empirical desire or moral resolution is *ipso facto* not an aesthetic judgment.<sup>40</sup> It follows that Kant credits not just the will but also the capacity for aesthetic judgment with the kind of freedom requisite for normative constraint.

Does he extend this to the faculties responsible for synthesis of imagination? I think there is reason to conclude that he does. I will first argue that synthesis of imagination is ultimately attributable to the understanding, at least when it is governed by rules; then I will argue that there are good reasons for thinking that the understanding is free in a manner that renders it normatively assessable.

Obviously, Kant holds that synthesis of imagination is carried out by the imagination; however, he also maintains that it is “an effect of the understanding on sensibility” (B152) and that

It is one and the same spontaneity that, there [in “synthesis of apprehension”] under the name of the imagination and here [in “synthesis of apperception”] under the name of understanding, brings combination into the manifold of intuition. (B162n; cf. A79/B104f., B153)

To make sense of this idea, think of Smith ‘building a house’ on some land she has bought, but using contractors for all of the building work. Smith is not capable of acquiring the building materials and building a house out of them on her own; she needs to take on the contractors to get the job done. Nevertheless, because she is directing the process, setting the parameters according to which it happens and supplying the impetus to the workers, it is correct to say that *she* is building the house as well as saying that *the contractors* are building the house. Similarly, the understanding cannot produce intuitions on its own, but it can employ the imagination to do this work on its behalf, and even control the imagination’s operations through mentally represented procedural rules (i.e. schemata). Given that synthesis of imagination is ultimately an effect of the understanding, the question we need to address is whether the understanding exhibits the kind of freedom needed for normative constraint.

Kant characterizes the understanding’s activities as involving “spontaneity”. To some commentators, this suggests a kind of freedom parallel to the autonomy of the free will (esp. McDowell, 1994). While some commentators have played down this parallel (e.g. Friedman, 1996:438), Markus Kohl (2015) has recently argued—to my mind convincingly—that there are no real textual barriers for taking the spontaneity of the understanding to be equivalent to

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<sup>40</sup> This is the import of Kant’s claim that beauty involves “disinterested pleasure” (e.g. *KU* 4:204f.)

full autonomy. Kohl argues that Kant credits the understanding with full control over the empirical judgments it makes, and hence with normative responsibility for making them. Furthermore, Kant sometimes explicitly characterizes the understanding's activities of making empirical judgments as being subject to normative constraint,<sup>41</sup> which entails that the understanding has the kind of freedom needed for normative constraint. This makes it viable to maintain that the "spontaneity" responsible for synthesis of imagination is free in the sense needed for normative constraint. If my proposal is accepted, the idea that synthesis of imagination exhibits freedom would ultimately need to be explicated and defended at greater length; for the moment, I hope to have shown that this idea is not untenable, and that it is not a weakness of my reading that it relies on it.

## 7. Conclusion

I have argued that, in order to understand the role of schemata in Kant's theory of cognition, we need to read him as proposing that synthesis of imagination involves rule-following. On my proposed reading, schemata connect our activities of synthesis to normative constraints, which make it possible for the mind to represent objective connections between disparate sensory material. Only in this way can we produce intuitions with conceptual content, intuitions that stand in relations of correspondence to concepts.

What assumptions lead Kant to the surprising conclusion that we need mentally represented rules for pre-perceptual processing (i.e. schemata)? To what extent do his assumptions seem plausible from a contemporary standpoint?

- (1) There is the claim with which we began, that thought cannot make contact with the objects around us except through connection with perception. This claim remains highly attractive.
- (2) There is the claim that most, if not all, dimensions of complexity that show up in perceptual experience depend on the mind *actively* processing sensory material.

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<sup>41</sup> In the *Prolegomena*, Kant claims that when I make a judgment of experience, I "intend that the judgment should [soll] also be valid at all times for us and for everyone else" (4:298). Similarly, in the *Critique of Judgment*, Kant equates the "claim[s] [...] to be valid for everyone" made by "the judgment of taste" and "all other empirical judgments" (5:191). In doing so, he affirms that empirical judgments are subject to normative constraints: "An individual judgment of experience, e.g., one made by someone who perceives a mobile droplet of water in a rock crystal, rightly demands that anyone else must also find it so, since he has made this judgment, in accordance with the general conditions of the determining power of judgment, under the laws of a possible experience in general" (ibid.).

Again, this claim remains highly plausible—it lies at the heart of modern cognitive science and has acquired strong empirical support via that discipline’s successes.

(3) Next, there is the claim that ‘arbitrary’ mental processes can jointly represent pluralities of features, but cannot represent them as objectively unified, and—consequently—that normative constraint is needed for us to represent kind-properties and objective temporal structures. From a contemporary standpoint, this is certainly controversial; however, it is in line contemporary theories according to which various objective representational purport depends on normative constraint.

(4) Kant’s fourth assumption is that only when we “act according to a representation of a [rule]” are our activities liable for normative assessment. I suspect that it remains attractive for many to think that, when we respond (or fail to respond) to reasons, our activities need to be mediated by rule-like mental representations. Alternatively, this might be a fruitful place to part ways with Kant: if we endorse different criteria for normative assessability, we ought to explore whether these criteria are met in the case of pre-perceptual processing.

(5) The fifth and final assumption that motivates Kant to posit schemata is this: concepts are always general, so objects must be perceived as bearing kind-properties in order to be subsumable under concepts. In the wake of Kripke (1980), this assumption seems highly questionable. We are more likely to think that some of our concepts (e.g. those expressed by proper names and indexical phrases) immediately represent particular objects, without general features figuring in their semantic content.<sup>42</sup> Since the argument of Section 5 was focused on the preconditions for representing kind-properties, it does nothing to show that such *de re* concepts would require schemata. In response, we might firstly explore whether the argument of Section 5 can be broadened to cover further kinds of perceptual content, so that synthesis of imagination is required for us even to perceive things as objects. (This would involve defending a ‘Conceptualist’ reading of Kant’s views.) Secondly, even without this broadening, the restricted conclusion that all non-*de re* concepts require schemata is extremely significant. If a being could apply only *de re* concepts, then its thoughts would be extremely impoverished; thought without general concepts would be thought without predication or quantification, and perhaps wouldn’t even deserve the name “thought” at all. Therefore, even if Kant’s conclusions only apply to *general*

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<sup>42</sup> Note that this view is even accepted by many neo-Fregeans about content, e.g. McDowell (1984a).

concepts, they still have extremely significant ramifications for our cognitive contact with the world.

In sum, Kant has good reasons to posit schemata. They play an important role in his account of how we can have thoughts about objects encountered through perception. Moreover, the concerns that motivate this part of Kant's theory of cognition still seem urgent from a contemporary perspective. Anyone who holds that objective representation constitutively depends on normativity, and that normative constraint requires rule-following, faces significant pressure to join Kant in postulating schemata.

# Answering the Question: What Is a Schema?

**Abstract:** Kant holds that cognition requires not only concepts and intuitions, but a third representation called a “schema”. To understand Kant’s theory of cognition, we need to know what a schema is. Three competing accounts persist in the literature: schemata are either intuitions, or rules for subsuming objects under concepts, or rules for synthesis of imagination (i.e. for producing complex intuitions). I aim to settle the dispute through a close reading of the Schematism and related texts. Cumulatively, the texts strongly support the conclusion that schemata are rules for synthesis of imagination. Furthermore, the rival interpretations face serious objections.

## 1. “The Deeply Obscure and Infuriating Chapter”

Part of the enduring interest of Kant’s *Critique of Pure Reason* is the novel theory of cognition it presents. Famously, Kant holds that cognition, i.e. thoughts about perceptible objects, can only arise through “uniting” two more basic kinds of mental representation: intuitions, i.e. singular representations of sensibility, and concepts, i.e. general representations of the understanding (e.g. A51/B75f.). For example, to have the thought that the animal that just ran past was a fox, I must encounter the relevant thing in a sensory representation (an intuition) and classify it under the concept *<fox>*.<sup>1</sup>

Somewhat less famously, Kant holds that I can only achieve this feat of uniting intuitions and concepts if I possess a third kind of mental representation, which Kant calls a “schema”. Kant introduces “schemata” while discussing how we can apply the special class of *a priori* concepts he calls the “categories”: “the schema of the concept of the understanding,” Kant writes, “mediates the subsumption of the latter [i.e. “appearances”] under the former [i.e. “the category”.]” (A139/B178). But he is equally clear that schemata are needed for all other kinds of concept that find application in experience:

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<sup>1</sup> I would also have to classify it under the concept *<the animal that just ran past>*. For brevity, I abstract from this complication.

[I]t is not images of objects but schemata that ground our pure sensible concepts. [...] Even less does an object of experience or an image of it ever reach the empirical concept, rather the latter is always related immediately to the schema of the imagination[.] (A140f./B180)

So in order to classify (or “subsume”) an intuited object under a concept, an individual needs the mental representation Kant calls a “schema”. Returning to our example, to think of the animal as a fox, I need three things: an intuition of the animal, the concept  $\langle fox \rangle$  and the schema of that concept.

It follows that we cannot understand Kant’s account of cognition—of how thoughts can be directed at the objects around us—without understanding schemata. Yet there are serious barriers to deciphering Kant’s account of schemata. In the decades after its first publication, the Schematism chapter (in which schemata are introduced) gained a reputation for being one of the most “obscure” parts of the *Critique of Pure Reason* (cf. Jacobi, 1816, p. 96; Schopenhauer, 1818, p. 533). The chapter maintained this reputation throughout the 19<sup>th</sup> c. and 20<sup>th</sup> c., with Erich Adickes pronouncing it “the most obscure part of the Critique” (1889, p. 171), Geoffrey Warnock dubbing it “bewilderingly vague” (1949, p. 81) and Ralph Walker calling it “the deeply obscure and infuriating chapter” (1978, p. 88). In the 21<sup>st</sup> c., the ill-repute of the Schematism has led many commentators, otherwise deeply interested in Kant’s account of the relation between concepts and intuitions, to take the drastic step of setting aside schemata altogether.<sup>2</sup> One author writes:

Now, I would like to say as little as possible about the Schematism chapter [...], since practically nothing in the *Critique of Pure Reason* is subject to so much controversy as that chapter. (Grüne, 2009, p. 213)

While it might have proved a fruitful tactic to set schemata aside temporarily, we cannot ultimately exclude them from our reconstructions of Kant’s theory of cognition. Consider the tantalizing note written by Kant in 1797: “The schematism is one of the most difficult points

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<sup>2</sup> Recent authors who focus on the relation between intuitions and concepts but have little or nothing to say about schemata include McDowell (1994, 2009), Land (2006, 2011, 2014, 2015), Allais (2009, 2015, 2017), Griffith (2012), Tolley (2013, 2017, 2018), Gomes (2014, 2016; Gomes & Stephenson, 2016) and McLear (2015, 2016b, 2016a).



of all. – Even Herr Beck<sup>3</sup> struggles to find his bearings in it – I hold this chapter to be one of the most important” (*Refl* 6359, 18:686).

The present article aims to shed light on Kant’s schemata by answering one disputed question: what kind of mental representation is a schema? To date, this issue remains unresolved, with three competing interpretations persisting in the literature:

INTUITIONS INTERPRETATION. Schemata are intuitions.

SUBSUMPTION-RULES INTERPRETATION. Schemata are rules for subsuming intuited objects under concepts.

SYNTHESIS-RULES INTERPRETATION. Schemata are rules of synthesis of imagination (i.e. for producing complex intuitions).

Only when we have settled this dispute can we move on to explaining how they are supposed to facilitate the subsumption of intuited objects under concepts.<sup>4</sup> I will argue that the textual evidence cumulatively provides much stronger support for the SYNTHESIS-RULES INTERPRETATION than for either of its rivals, and that the rival interpretations face serious unanswered objections. Along the way, I will offer a close reading of the most important passages on schemata: a secondary aim of this article is to clear up some of the obscurity of these texts by suggesting ways to untangle Kant’s sometimes unhelpful formulations.

Section 2 presents the three competing interpretations in more detail. Section 3 offers a close reading of the central passages of the Schematism. I argue that a wealth of passages unequivocally support the SYNTHESIS-RULES INTERPRETATION. Section 4 considers a range of *prima facie* evidence against that reading. I argue that some of this evidence is undermined when the texts are examined more carefully, and that the remaining evidence can be explained away. It is a cost for the SYNTHESIS-RULES INTERPRETATION that it has to explain away certain texts rather than taking them at face value. However, none of the interpretations can avoid this cost, and the weight of evidence cumulatively favours the SYNTHESIS-RULES INTERPRETATION. Section 5 confirms this interpretative judgment by arguing that the rival interpretations are untenable in their own right. I argue that the INTUITIONS INTERPRETATION struggles to accommodate the intended generality of schemata; that it risks identifying

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<sup>3</sup> Jakob Sigismund Beck (1761–1840), one of Kant’s students in Königsberg and later an important proponent of Kant’s philosophy.

<sup>4</sup> I pursue the latter task in further work (presented here as Chapter 3).

schemata with “images”; and that it faces an insurmountable dilemma over the status of the schemata of the categories. I argue that the SUBSUMPTION-RULES INTERPRETATION is deeply uncharitable: it saddles Kant with confusions over the nature of sensible schemata, and renders transcendental schemata useless. The Conclusion summarizes these results and briefly argues that more work is needed to explain the role played by schemata, *qua* rules for synthesis of imagination.

## 2. Three Interpretations

I begin by presenting the three accounts that dominate the literature.

### 2.1 The INTUITIONS INTERPRETATION

According to the first account, schemata are intuitions. This view is defended by Moltke Gram (1968, pp. 83–129), Henry Allison (1981, 1983, pp. 179–85, 2004, pp. 210–8) and Sarah Gibbons (1994, pp. 53–78), and endorsed by Konstantin Pollok (2017, pp. 235–8). These interpreters differ over the scope of the INTUITIONS INTERPRETATION: Gram and Allison claim only that the schemata of the categories (i.e. the “transcendental schemata”) are intuitions, whereas Gibbons and Pollok seem to hold that all schemata are intuitions.

On this reading, a schema represents a certain pattern or set of features that typifies the objects falling under the relevant concept. Since an intuition is a representation of a particular not a general feature, a schema so construed would present a token-instance of this pattern or feature. For example, the schema of the concept *<fox>* would be a “singular intuitive representation” of the distinctive features of foxes.<sup>5</sup> Perhaps this intuition would present the brownish-redness, the pointed ears and the ambling movements that make foxes so recognizable. (As I argue in Section 5.1, I suspect that this proposal collapses into the idea that the schema is a mental image of some paradigm fox—a view which Kant clearly rejects.) In the case of a category, the schema would be an “intuitive exhibition” of a certain temporal structure, e.g. something continuing to exist while its properties change in the case of the concept *<substance>*.

The rationale for thinking of schemata in this way comes from a mixture of structural and textual considerations. Gram (1968) and Gibbons (1994) argue that this is the only available way to render Kant's account of judgment coherent (mainly by giving arguments against the SUBSUMPTION-RULES INTERPRETATION); Gram (1968) and Allison (1981, 1983,

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<sup>5</sup> Cf. Gibbons (1994, pp. 61, 74).

2004) emphasise Kant's remarks about some of the categories' schemata (discussed below in Section 4.2), and some asides relating to schemata from the 2<sup>nd</sup> and 3<sup>rd</sup> *Critiques* (discussed below in Sections 4.3–4).

## 2.2 The SUBSUMPTION-RULES INTERPRETATION

According to the second account, schemata are rules for subsuming intuited objects under concepts. The SUBSUMPTION-RULES INTERPRETATION is defended by Harold A. Prichard (1909, pp. 246–55), Jonathan Bennett (1966, pp. 151f.), Paul Guyer (1987, pp. 162–81) and Rolf-Peter Horstmann (2018, pp. 58, 64, 86–96).

On this reading, a schema is a rule specifying the features that typify the objects falling under the relevant concept. For example, the schema of the concept *<fox>* would be a rule stating that things with reddish-brown fur, pointed ears, ambling movements, etc. are to be subsumed under the concept *<fox>*. In the case of a category, the schema would specify that objects with a certain temporal structure are to be subsumed under a certain category, e.g. that things which continue to exist while their properties change are instances of the concept *<substance>*. A schema *qua* subsumption rule would be a representation of a mental act, i.e. the act of “subsuming” or classifying an object under a concept, which Kant attributes to the power of judgment (A132/B171). However, it would represent this act by specifying features that objects must exemplify in order to fall under the relevant concept: as well as representing a mental act, it would represent features of objects. Unlike an intuition, such a rule would be *general* in content, so a schema thus construed would represent a *kind* of mental act (and *general* features of objects).

Many commentators think that, for Kant, *concepts* are rules for subsuming objects, and contain marks specifying the features exhibited by the objects that fall under them (e.g. Allison, 2004, p. 79; Guyer, 1987, p. 164; Longuenesse, 1998, p. 50; cf. A68/B93, A106). For this reason, proponents of the SUBSUMPTION-RULES INTERPRETATION often explicitly equate schemata with a kind of concept (Bennett, 1966, p. 151; Horstmann, 2018, pp. 58, 89; Prichard, 1909, p. 248). This further illustrates the fact that a subsumption-rule is simultaneously a representation of a mental procedure and a representation of a type of object. In the case of the categories, the schema takes the merely logical content of the category and adds further temporal content, resulting in a concept which falls under the category, but also has sensible objects falling under it. In the case of sensible concepts (i.e. empirical and mathematical concepts), the schema is really just the same representation as the

concept it schematizes (Bennett, 1966, p. 151; Guyer, 1987, pp. 163–5). Insofar as Kant differentiates sensible concepts from their schemata, he is just “half-heartedly generalis[ing] in order not to look excessively ad hoc” (Chipman, 1972, p. 42).

The motivation for thinking that schemata are rules of subsumption is mainly contextual. In the short section preceding the Schematism, Kant raises the issue of how agents are capable of subsuming particular objects under concepts. Then the Schematism chapter opens with a discussion of subsumption. Kant even refers to this part of the *Critique* as ‘The Transcendental Doctrine of the Power of Judgment’—the power of judgment being “the capacity to **subsume** under rules, i.e. to decide whether something stands under a given rule” (A132/B171, Kant’s emphasis). So, by the time we reach Kant’s characterizations of schemata, it is natural to expect him to be focusing on the power of judgment’s activity of subsuming intuited objects under concepts. And indeed some of Kant’s remarks are compatible with such a reading: to say that a schema is a “representation of a general procedure [...] for providing a concept with its image” (A140/B179f.) might well be read as meaning that it is a representation of how to find or identify an image that falls under a given concept. In what follows, I will argue that other ways of reading such passages are ultimately more satisfying. Nevertheless, the view is not without its *prima facie* appeal.

### 2.3 The SYNTHESIS-RULES INTERPRETATION

According to the third account, schemata are rules for synthesis of imagination. On this view, schemata are neither intuitions nor concepts, but rules for producing intuitions that fall under concepts. This view is espoused by Martin Heidegger (1929, pp. 88–113), J. Michael Young (1984, 1988), Michael Pendlebury (1995), Béatrice Longuenesse (1998) and Samantha Matherne (2015).<sup>6</sup>

What would it mean for a schema to be a rule for synthesis of imagination? In this context, a *rule* is simply a general representation of a repeatable activity. Certain token-activities fall into kinds; there can be mental representations of these activity-types; such representations can be called “rules”. (I intend the term “rule” to be neutral regarding the role these representations play, e.g. whether they merely describe an activity-type or whether they

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<sup>6</sup> Longuenesse’s position seems rather equivocal: many of her remarks favour the SYNTHESIS-RULES INTERPRETATION (pp. 13, 50, 116, 39) but other remarks seem to conflict with it (pp. 245, 250, 273, 332, 369, 371). Note also that Allison (2004) endorses the SYNTHESIS-RULES INTERPRETATION for empirical and mathematical schemata (but the INTUITIONS INTERPRETATION for transcendental schemata).

play some role in bringing the activity about.) Kant’s notion of *synthesis of the imagination* is a large topic, but here is a brief (and hopefully relatively unpartisan) characterization. Synthesis of the imagination can be understood in functional terms as the mental operation that “bring[s] the manifold of intuition into an image” (A120). We can represent this functional structure with a flowchart (fig. 1).

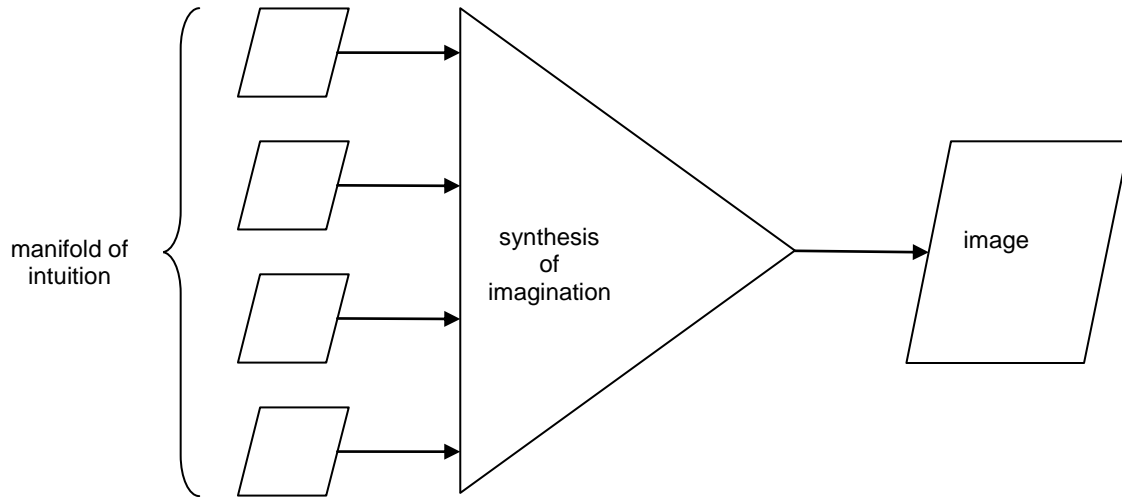


Figure 2. Functional characterization of synthesis of imagination

By the “manifold of intuition”, Kant means the plurality of states (“sensations”, “impressions”) that arise when the faculty of sensibility is affected by objects (A120f.). These can be equated with the physiological changes that our sense-organs undergo when stimulated by objects.<sup>7</sup> Kant holds that we can also produce images of numbers and geometrical objects without drawing on sensations, in which case the structural features of the mind’s receptive capacities serve as a “pure” manifold of intuition (cf. A99f., B137). So the *input* of synthesis of imagination is a plurality of non-representational<sup>8</sup> sensory states.

The *output* of synthesis of imagination is an “image”, i.e. a complex intuition.<sup>9</sup> An intuition is a singular representation of a particular object, a representation with spatial and temporal structure. Kant gives the examples of perceiving a house (B162) and “drawing”

<sup>7</sup> Kant talks about “impressions” in physiological terms in his *Anthropology* (7:176). Cf. Horstmann (2018, pp. 18f.).

<sup>8</sup> Note that some interpreters hold that these sensations jointly constitute a representation of an object, even prior to synthesis. See below.

<sup>9</sup> “Image (which means an intuition that contains a manifold in certain relations, consequently a figure)” (ÜE 8:201f.). N.b. we shouldn’t assume that by “image”, Kant means an internal mental intermediary, rather than a mental state directed at the outer world. For example, Heidegger (1929, pp. 90f.) argues that Kant uses the term “image [*Bild*]” in the sense of “view” or “sight” (“*Anblick*”). Cf. Matherne’s (2015).

lines and groups of dots in the mind's eye (A102, B137f., A140/B179). In each case, the resulting intuition is *complex* in the sense of having components, which each represent different features of the object. This complex structure can be mereological, as when the different parts of an intuition of a line each represent a different part of the line; and it can also be non-mereological, as when the visual and tactile sensations that make up my intuition of a lump of cinnabar jointly represent the lump as red and as heavy (cf. A100f.).

Let me flag up a disagreement in contemporary Kant-scholarship that bears on this discussion. It is controversial whether Kant thinks that *all* of our intuitions depend on synthesis of imagination, or whether we possess some intuitions prior to synthesizing. Some "Nonconceptualist" interpreters hold that the "manifold of intuition" constitutes an intuition even prior to synthesis (despite the fact that the individual "sensations" making it up are non-representational).<sup>10</sup> Nevertheless, these interpreters agree that synthesis is required in order for us to reach certain kinds of complex intuitions, and certainly the kinds of representation that Kant calls "images".<sup>11</sup> They also agree that synthesis is required in order to reach intuitions that present objects in a way that allows them to be subsumed under concepts.<sup>12</sup> The (alleged) intuitions that precede synthesis have a kind of "sensible unity", but they do not present us with things exhibiting the kinds of unity needed for us to be able to take them up into thought. In effect, all parties agree that "images"—the kinds of intuition that can be subsumed under concepts—are products of synthesis. For the purposes of this essay I will therefore remain neutral on the issue of whether all intuitions presuppose synthesis, and simply rely on the consensus view that synthesis is needed to get us from passively received "sensations" to unified "images" of objects.

We can now sum up the import of the SYNTHESIS-RULES INTERPRETATION. To claim that a schema is a rule for synthesis of imagination is to claim that it is a general representation of a procedure for converting sensory stimulations ("sensations") into a unified, complex perceptual representation of an object (an "image"). Returning to our example of seeing a fox, the "manifold of intuition" consists of the many firings of photoreceptors caused by light reflected from the animal; "synthesis of imagination" denotes the sequences of processing that convert these neural signals into a complex perceptual representation (i.e. an image); and the schema of the concept  $\langle fox \rangle$  is a representation of the

<sup>10</sup> Nonconceptualists with this view include Tolley (2013, pp. 122f.), Matherne (2015:32f.), McLearn (2015, pp. 100f.) and Allais (2017, pp. 32f.).

<sup>11</sup> See Tolley (2013, pp. 122f.) and Matherne (2015, pp. 755f.).

<sup>12</sup> See McLearn (2015, pp. 98–106) and Allais (2017, pp. 37–44).

process of synthesis of imagination required to produce an image matching that concept, i.e. one that presents its object as having reddish-brown fur, pointed ears, ambling movements, etc.

### **3. Reading the Schematism**

With these three views on the table, I will now offer a close of the key passages in which Kant introduces schemata. The majority of these passages support the SYNTHESIS-RULES INTERPRETATION but conflict with both the INTUITIONS and SUBSUMPTION-RULES INTERPRETATIONS. (In Section 4, I will discuss the passages which do not easily fit with the SYNTHESIS-RULES INTERPRETATION.) First, let me provide some orientation by outlining the Schematism chapter as a whole.

The Schematism consists of twenty paragraphs. Paragraphs 1–5 contain introductory remarks centred on the question of how intuited objects could be subsumed under the categories. Kant begins with some general remarks about the subsumption of objects under concepts (para. 1, A137/B176) and claims that there is a special problem concerning how intuited objects can be subsumed under the categories (para. 2, A137f./B176f.). He suggests that this problem can be dissolved by appealing to a third kind of representation, which he terms a “transcendental schema” (para. 3, A138/B177) and argues that a transcendental schema must be a “time-determination”, a notion which he does not fully explain (para. 4, A138f./B177f.). He then explains that this account agrees with the earlier conclusion from the Transcendental Deduction that the categories only have objective validity for appearances—his account of schemata shows that only objects with temporal form can be subsumed under the categories (para. 5, A139f./B178f.). The next twelve paragraphs contain the bulk of Kant’s characterization of what schemata are: a general characterization (para. 6, A140/B179f.); remarks about the schemata of mathematical concepts, empirical concepts and the categories (para. 7, A140–2/B180f.); a characterization of the schema for each category (paras. 8–16, A142–5/B181–4); and a summary of this list (para. 17, A145/B184f.). The final three paragraphs relate this account to the unity of apperception (para. 18, A145f./B185), and further explain the restriction of the categories to the domain of appearances, beyond which they have “merely logical meaning” (paras. 19–20, A146f./B185–7). Since my goal is to establish what kind of mental representation a schema is, I will focus on the central twelve paragraphs (paras. 6–17), with some discussion of paragraph 4. Some of these passages fairly obviously support the SYNTHESIS-RULES INTERPRETATION, but others will take significant effort to decipher.

### 3.1 *Schemata in General*

I begin with Kant's general characterization of schemata in paragraph 6. Kant intends this paragraph to apply to all schemata, including the schemata of the categories but also those of empirical and mathematical concepts. Here is the paragraph in full:

The schema is in itself always only a product of the imagination; but since the synthesis of the latter has as its aim no individual intuition but rather only the unity in the determination of sensibility, the schema is to be distinguished from an image. Thus, if I place five points in a row, . . . . ., this is an image of the number five. On the contrary, if I only think a number in general, which could be five or a hundred, this thinking is more the representation of a method for representing a multitude (e.g., a thousand) in accordance with a certain concept than the image itself, which in this case I could survey and compare with the concept only with difficulty. Now this representation of a general procedure of the imagination for providing a concept with its image is what I call the schema for this concept. (A140/B179f.)

Kant begins by stating that a schema is “a product of the imagination”. He then quickly pivots to warding off a misunderstanding: the most familiar “products of the imagination” (for someone who has been reading the *Transcendental Analytic* up to this point) are the images or complex intuitions that are generated through synthesis of imagination, e.g. an image of “five points in a row”. But “the schema is to be distinguished from an image”—it is not this kind of product of synthesis of imagination, but something else. Moving beyond this negative point, Kant contrasts the image of the number five (i.e. the “five points”) with “the representation of a method for representing a multitude”. Skipping ahead to the final sentence, we see that this “representation of a method” or “representation of a general procedure” is the schema: a schema is a representation of a certain course of mental activities. We can immediately note that this is at odds with the INTUITIONS INTERPRETATION (according to which a schema represents a pattern exemplified by objects, rather than a kind of mental operation).

What kind of procedure or process of mental activities does a schema represent? Well, “[a] general procedure of the imagination for providing a concept with its image”. On the basis of our earlier characterization (Section 2.3), it seems highly likely that this “procedure of the imagination” which provides us with “images” is none other than synthesis of imagination. This surmise is further supported by the context. Kant began the paragraph by



reminding the reader about “synthesis of [“imagination”]”, and his example of “plac[ing] five points in a row” to form “an image of the number five” is clearly an example of this.

Therefore, this passage provides clear support for the view that schemata are representations of processes of synthesis of imagination, i.e. the SYNTHESIS-RULES INTERPRETATION. In contrast, it clashes with the SUBSUMPTION-RULES INTERPRETATION, according to which a schema ought to represent a procedure of the power of judgment through which an object is subsumed under a concept. I therefore contend that this paragraph—Kant’s first attempt to explain what schemata are—strongly supports the SYNTHESIS-RULES INTERPRETATION, but is incompatible with either of the rival interpretations.

To be fully explicit, let me comment on how the passage supports the claim that schemata are *rules*. Kant describes a schema as representing a “*general* procedure”—a *type* of process rather than a token act. He also writes that a schema represents a “method”, i.e. a repeatable procedure. So a schema is a general representation of a repeatable procedure, i.e. a rule. So according to this first characterization, the schema of the concept <fox> would be a rule representing the kind of synthesis of imagination required to produce an image of a fox.

### 3.2 Mathematical Schemata

Proceeding to paragraph 7, we find further unequivocal evidence that schemata are rules for synthesis of imagination. Here is Kant’s account of the schemata of mathematical concepts:

In fact it is not images of objects but schemata that ground our pure sensible concepts. No image of a triangle would ever be adequate to the concept of it. For it would not attain the generality of the concept, which makes this valid for all triangles, right or acute, etc., but would always be limited to one part of this sphere. The schema of the triangle can never exist anywhere except in thought, and signifies a rule of the synthesis of the imagination with regard to pure shapes in space. (A140f./B180)

Again, Kant begins by contrasting schemata with images. Then he offers a criticism of the idea that a mathematical concept could relate to the plurality of objects falling under it by means of an image. The choice of example suggests that Kant’s target is Locke’s theory of abstract ideas: an image of a triangle must have a determinate shape, so it cannot be “valid for all triangles” which come in different shapes.<sup>13</sup> Next comes the positive point—the

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<sup>13</sup> Here Kant echoes Berkley’s (1710, pp. 9–17) criticisms of Locke, and perhaps also Hume’s similar discussion (1738, pp. 17–25). The example of “the *general Idea* of a *Triangle* [...] [which] must be neither Oblique, nor

characterization of schemata, which are the representations that really mediate between concepts and the objects that fall under them. A schema “signifies a rule of the synthesis of the imagination”. This sentence unequivocally supports the SYNTHESIS-RULES INTERPRETATION, and directly contradicts the other two interpretations. So according to this passage, the schema of the concept <triangle> would be a representation of the procedure of synthesis of imagination through which images of triangles are produced.

### 3.3 Empirical Schemata

Following this characterization of mathematical schemata, Kant proceeds to the schemata of empirical concepts. His remarks follow the same pattern as the previous two quotations, and again decisively support the SYNTHESIS-RULES INTERPRETATION:

Even less does an object of experience or an image of it ever reach the empirical concept; rather the latter is always related immediately to the schema of the imagination, as a rule for the determination of our intuition in accordance with a certain general concept. The concept of a dog signifies a rule in accordance with which my imagination can specify the shape of a four-footed animal in general, without being restricted to any single particular shape that experience offers me or any possible image that I can exhibit *in concreto*. (A141/B180)

Kant starts off by insisting that images and the objects they represent are related to empirical concepts by schemata. He characterizes the schema as “a rule for the determination of our intuition”. It is sometimes assumed that Kant uses the term “determining” to mean subsuming under concepts (which would imply that this characterization supports the SUBSUMPTION-RULES INTERPRETATION). However, in the course of explaining synthesis of imagination, Kant explicitly describes the imagination as “a faculty for *determining* the sensibility” (B152, emphasis added); indeed, there are many passages in which Kant describes synthesis of imagination as “determining” “sense” (B151, B153, B154, B155) or “the manifold” (B154). So the first sentence of the passage fits well with the SYNTHESIS-RULES INTERPRETATION (though this sentence can probably also be accommodated by the SUBSUMPTION-RULES INTERPRETATION).

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Rectangle, neither Equilateral, Equicrural, nor Scalenon; but all and none of these at once” is introduced by Locke (1689, p. 596, emphasis in original), and picked up by Berkeley (1710, pp. 14–7) and Hume (1738, pp. 19f.).

Next, he offers an example. The schema of the concept <dog> is “a rule in accordance with which my imagination can specify [*verzeichnen*] the shape of a four-footed animal in general”.<sup>14</sup> The schema represents a process carried out by the imagination, resulting in a representation with spatial form. I see no option other than to think that this is synthesis of the imagination, so all in all this passage decisively supports the SYNTHESIS-RULES INTERPRETATION: the schema of the concept <dog> is a representation of the kind of synthesis of imagination that would result in an image of a dog.

To briefly take stock, Kant’s general characterization of schemata and his characterizations of mathematical and empirical schemata all unequivocally support the SYNTHESIS-RULES INTERPRETATION. Let’s now proceed to the more difficult material on the transcendental schemata.

### 3.4 Transcendental Schemata

The remainder of paragraph 7 discusses transcendental schemata (i.e. the schemata of the categories). This is followed in paragraphs 8–17 by characterizations of the schema of each category. Before turning to this texts, let’s consider what we might expect to find. Since the SYNTHESIS-RULES INTERPRETATION has emerged as the frontrunner up to this point, let’s spell out what we would expect if this account were correct.

In the Analytic of Concepts, Kant claims that the categories are related to certain forms of synthesis of the imagination: the categories “give [...] **unity**” not only to acts of judgment, but also to acts of “the **synthesis** of this manifold [i.e. “the **manifold** of pure intuition”] by means of the imagination” (A78f./B104). This is summed up in the infamous dictum: “The same function that gives unity to the different representations **in a judgment** also gives unity to the mere synthesis of different representations **in an intuition**” (A79/B104f.). In the Transcendental Deduction, Kant appeals to this link between categories

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<sup>14</sup> Strictly speaking, the passage associates this “rule” with the concept <dog>, rather than that concept’s schema. This has led some commentators to conclude that Kant intends empirical concepts to be identical with their own schemata (Bennett, 1966, p. 151; Chipman, 1972, p. 42; Guyer, 1987, p. 163). However, the first sentence of the quoted passage contrasts the objects’ relation to empirical concepts with their relation to empirical schemata, thus presupposing the non-identity of concept and schema. Since the phrase “rule in accordance with which my imagination can specify the shape of a four-footed animal in general” so closely matches Kant’s previous characterizations of schemata, we should therefore conclude that Kant is simply misstating his point slightly (cf. Allison, 2004, p. 208).

and “condition[s] of the synthesis of all **apprehension**” in order to support the conclusion that

all synthesis, through which even perception itself becomes possible, stands under the categories, and since experience is cognition through connected perceptions, the categories are conditions of the possibility of experience, and are thus also valid *a priori* of all objects of experience. (B161)

Each category is associated with a certain kind of synthesis of imagination. Therefore, on the SYNTHESIS-RULES INTERPRETATION, we would expect to find Kant characterizing the transcendental schemata as rules for these kinds of synthesis. Because these syntheses are carried out on “the manifold of *pure* intuition” (A78f./B104, emphasis added), we should expect those schemata to concern certain spatial or temporal features. According to the SYNTHESIS-RULES INTERPRETATION, a transcendental schema should be a representation of the procedure of synthesis of imagination that results in images of objects falling under a certain category, and should pertain to the pure form of such images.

To what extent is this hypothesis borne out in the Schematism? The paragraphs on transcendental schemata are probably the murkiest in the whole chapter. As we will see, Kant's statements seem rushed and are beset by numerous unhelpful confluences of vehicle and content (appearing to identify the schema with some *x*, when on inspection he must mean that the schema is a *representation of x*). Moreover, much of what he writes presupposes familiarity with later sections of the book (especially the System of Principles), thus making his remarks all but indecipherable to the first-time reader. I will try to cut through this obscurity by bringing in the relevant material from other sections and by correcting the vehicle/content confluences. Once the passages are cleared up in this way, a number of them unequivocally support the SYNTHESIS-RULES INTERPRETATION—or so I will argue.

Due to its relative clarity, I begin with the schema of *<magnitude>*:

The pure **schema of magnitude** (*quantitatis*) [...] <sup>15</sup> is a representation that summarizes the successive addition of one (homogeneous) unit to another. [It] is nothing other than the unity of the synthesis of the manifold of a homogeneous intuition in general[.] (para. 9, A142f./B182)

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<sup>15</sup> I omit Kant's difficult remarks about the relation between this schema and “number”, which are not germane to our discussion.

Let's take this step by step. This schema "is a representation that summarizes [*zusammenbefasst*]" some process. The process in question is "the successive addition of one (homogeneous) unit to another". Looking ahead to the relevant part of the System of Principles (viz. the Axioms of Intuition), we find Kant discussing what is clearly the same process: "the synthesis of the manifold [...] through the composition of that which is homogeneous and the consciousness of the synthetic unity of this manifold (of the homogeneous)" (B202f.). This is the process through which we generate sensible representations of quantities. For our purposes, the most important lesson is this: Kant explicitly attributes this "successive synthesis" to the "productive imagination" (A163/B204). Therefore the schema of *<magnitude>* is a representation of a kind of synthesis of imagination (through which we produce images of quantities). The schema pertains to this kind of synthesis "in general" rather than to some token act: it is a rule of synthesis of imagination.

Additional evidence for the same conclusion is found in paragraph 17, where Kant summarizes his account of the transcendental schemata: "The schema of [magnitude] contains and makes representable [...] the generation (synthesis) of time itself, in the successive apprehension of an object" (A145/B184). This confirms that the schema of *<magnitude>* is a representation of a kind of synthesis. The term "apprehension" shows that this is synthesis of imagination.<sup>16</sup> In sum, Kant's characterizations of the schema of *<magnitude>* decisively support the SYNTHESIS-RULES INTERPRETATION and are incompatible with the other two interpretations.

Let me briefly comment on a confusing formulation from the first passage. As well as being "a representation that summarizes the successive addition of one (homogeneous) unit to another", Kant also describes the schema of *<magnitude>* as "the *unity* of the synthesis of the manifold" (A142f./B182, emphasis added). We can see from the context that these two characterizations are meant to be equivalent. With that in mind, Kant's usage here seems a little misleading. Strictly speaking, we would expect "unity" to designate a *property* exemplified by the synthesis-type, rather than a *representation* of the synthesis-type. However, Kant clearly intends "the unity of the synthesis of the manifold" to mean the latter, i.e. the rule of synthesis. We should bear this potentially misleading phrasing in mind when approaching Kant's other statements.

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<sup>16</sup> Cf. e.g. "There is thus an active faculty of the synthesis of this manifold in us, which we call imagination, and whose action exercised immediately upon perceptions I call apprehension" (A120).

Let's now turn to the somewhat murkier remarks on the schema of *<reality>*:

Now every sensation has a degree or magnitude, through which it can more or less fill the same time, i.e., the inner sense in regard to the same representation of an object, until it ceases in nothingness (= 0 = *negatio*). Hence there is a relation and connection between, or rather a transition from reality to negation, that makes every reality representable as a quantum, and the schema of a reality, as the quantity of something insofar as it fills time, is just this continuous and uniform generation of that quantity in time, as one descends in time from the sensation that has a certain degree to its disappearance or gradually ascends from negation to its magnitude. (para. 10, A143/B182f.)

The schema of [quality] contains and makes representable [...] the synthesis of sensation (perception) with the representation of time, or the filling of time" (para. 17, A145/B184).<sup>17</sup>

Starting with the latter quotation, Kant states that the schema of *<quality>* is a representation of a kind of synthesis. To decide whether this supports the SYNTHESIS-RULES INTERPRETATION, we need to determine what exactly this involves. Once again, we can clarify matters by consulting the corresponding part of the System of Principles, viz. the Anticipations of Perception. There, Kant describes "a synthesis of the generation of the magnitude of a sensation from its beginning, the pure intuition = 0, to any arbitrary magnitude" (B208). The magnitudes in question are clearly *intensive* magnitudes, as opposed to the *extensive* magnitudes that pertain to the schemata of quantity.<sup>18</sup> It is clear (from the context and the similar characterizations) that this "synthesis of the generation of the magnitude of a sensation" described in the Anticipations is the same process as the "continuous and uniform generation of" the "magnitude" of a "sensation" described in Schematism paragraph 10 (and "the synthesis of sensation" described in paragraph 17). Now, in the Anticipations, this synthesis is explicitly attributed to "the productive imagination" (A170/B211). Therefore, the schema of *<reality>* is a representation of a kind of synthesis of imagination. This unequivocally supports the SYNTHESIS-RULES INTERPRETATION, while

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<sup>17</sup> I set aside Kant's seeming imprecision in treating his description of the schema of *<reality>* as an elucidation of all three schemata of quality. Cf. A168f./B210f. for some discussion of how *<reality>* relates to *<negation>* and Longuenesse (1998, pp. 203–10) for a discussion of the schemata of *<negation>* and *<limitation>*.

<sup>18</sup> Cf. 'Größe, intensive' in Willaschek et al (eds.) (2015).

posing significant problems for both the INTUITIONS and SUBSUMPTION-RULES INTERPRETATIONS. (On the former, the schema ought to represent a pattern exemplified by objects, rather than a mental process. On the latter, it ought to represent a procedure through which the power of judgment subsumes objects under concepts, rather than a process through which the imagination generates sensible representations.)

Again, it will be helpful to make explicit some of the sources of obscurity in these quotations. As we have seen, we can only get a grip on what Kant means by drawing on later passages. But this is not all: Kant also creates barriers through carelessness over the vehicle/content distinction. We know from everything Kant has said up to this point that a schema is a mental representation.<sup>19</sup> However, at A143/B183 he equates the schema of *<reality>* with the act of “generation” itself, rather than with a representation of this act. Only in paragraph 17 does he correct this slip, clarifying that the schema is not the synthesis itself but a representation of it.<sup>20</sup> We should therefore be on the lookout for other cases in which Kant accidentally identifies the schema with the procedure it represents, rather than keeping vehicle and content distinct.

With this warning in mind, let’s look at how Kant characterizes the schema of *<possibility>*:

The schema of possibility is the agreement of the synthesis of various representations with the conditions of time in general (e.g., since opposites cannot exist in one thing at the same time, they can only exist one after another), thus the determination of the representation of a thing to some time. (A144/B184)

On the face of it, this schema is either a property of a kind of synthesis (viz. its “agreement [...] with the conditions of time”) or else the act of synthesis itself (viz. “the determination of the representation of a thing”). But as we have noted, Kant consistently classifies schemata as mental *representations*, not mental acts.<sup>21</sup> In order to remove this inconsistency, we should

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<sup>19</sup> Schemata are consistently characterized as “representations” throughout the Schematism and beyond (A138/B177, A140/B179f., A142/B182, A144/B183, A156/B195). All three interpretations of schemata accept this fact.

<sup>20</sup> I.e. by writing that the schema “contains and makes representable [...] the synthesis of sensation” (A145/B184).

<sup>21</sup> See fn. 19. For further confirmation that the schema of *<possibility>* is a representation, cf. “the schema of [each modal category] contains and makes representable [...] time itself, as the correlate of the determination of

conclude that Kant means to identify the schema of *<possibility>* with a representation of a kind of synthesis, namely the kind of synthesis that produces representations agreeing with the conditions of time.

Exactly what kind of synthesis is represented by the schema of *<possibility>*? What mental operation needs to agree with “the conditions of time” in order for an object to fall under the concept *<possible>*? When we look ahead to the Postulates of Empirical Thought, we find evidence that the operation in question is synthesis of imagination. There, Kant asks what must be the case for a concept to have possible objects falling under it. He starts with the basic necessary condition “that in such a concept no contradiction must be contained” (A220/B267f.): there must be no contradictions between the logical marks that constitute the concept in question. However, Kant claims that this is not sufficient for possibility. He illustrates this with the example of “the concept of a figure that is enclosed between two straight lines” (A220/B268). This concept is free from logical contradictions, yet there is still no possible object that falls under it. Kant argues that this impossibility rests on the fact that the kind of synthesis of imagination that would be required to generate a “figure” corresponding to this concept does not agree with “the conditions of space and its determinations” (A221/B268).<sup>22</sup> Shapes with two sides, both of which are straight, are impossible; this is because we cannot synthesize images of them without (*per impossibile*) violating the geometrical structure of space. In this example, Kant focuses only on constraints imposed by the formal structure of space, but his later remarks show that synthesis must also agree with the formal conditions on apprehending sensible material (A223f./B271f.). In general, Kant’s picture seems to be that for a concept to have possible objects, the synthesis of imagination needed to produce images corresponding to that concept must agree with the formal conditions of intuition. Since only *outer* intuitions are subject to the conditions of space, while *all* intuitions are subject to the conditions of time, the most general constraints will be “the conditions of time in general” (A144/B184).

Switching our focus to the concept *<possible>*, what we have just said implies that objects will fall under this concept if and only if images of them can be produced through

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whether and how an object belongs to time” (para. 17, A145/B184). The latter part is hard to decipher, but the former part clearly states that the schemata of the modal categories are representations.

<sup>22</sup> Kant puts the point in terms of the “construction” of a “figure”, rather than using the phrase “synthesis of imagination”. But since Kant introduces the notion of synthesis of imagination with examples of geometrical construction (cf. A102, B137f., A140/B179), it should be uncontroversial that construction is a form of synthesis of imagination. Cf. A223f./B271.



acts of synthesis of imagination that agree with the formal conditions of intuition. We thus have good reason to conclude that the schema of *<possibility>* is a representation of a very broad kind of synthesis of imagination, viz. the kind that agrees with the formal conditions of time. So Kant's characterization of the schema of *<possibility>* also seems to support the SYNTHESIS-RULES INTERPRETATION. In contrast, the characterization is clearly incompatible with the INTUITIONS INTERPRETATION—the schema of *<possibility>* represents a kind of synthesis, not a pattern exhibited by objects. Perhaps the passage could be reconciled with the SUBSUMPTION-RULES INTERPRETATION, but this would require an explanation of what it would mean for the process of subsumption to “agree[] [...] with the conditions of time in general” (A144/B184). No such explanation is provided by existing defences of the SUBSUMPTION-RULES INTERPRETATION, so the passage presents a challenge for that account.

Now we can turn to Kant's general characterization of the transcendental schemata: “The schema of a pure concept of the understanding [...] is [...] the pure synthesis, in accord with a rule of unity according to concepts in general, which the category expresses” (A142/B181). As with the schema of *<possibility>*, the literal wording suggests that a schema is an act of synthesis. But once again, because of the weight of evidence that a schema is a mental representation, we should suspect a conflation of vehicle and content. Indeed, Kant draws our attention to the fact that this synthesis is governed by a “rule of unity”. Might Kant mean that transcendental schemata are the *rules* of synthesis, rather than the acts of synthesis? This hypothesis is confirmed by the summary in paragraph 17: “Now one sees from all this that the schema of each category *contains* and *makes representable*: in the case of magnitude, the generation (synthesis) of time itself, in the successive apprehension of an object [etc.]” (A145/B184, emphasis added). Here it is explicit that the act of synthesis is the *content* that is *represented* by the schema, not the schema itself. Since that content pertains to some kind of synthesis, we have further unambiguous evidence against the INTUITIONS INTERPRETATION. Admittedly, what Kant says about transcendental schemata in general doesn't tell us whether this synthesis is subsumption or synthesis of imagination, so this doesn't give us any additional evidence against the SUBSUMPTION-RULES INTERPRETATION. Still, it is perfectly consistent with the SYNTHESIS-RULES INTERPRETATION and at odds with the INTUITIONS INTERPRETATION.

Paragraph 17 also contains another general characterization of transcendental schemata. They are described as:

nothing but a priori **time-determinations** in accordance with rules, and these concern, according to the order of the categories, the **time-series**, the **content of time**, the **order of time**, and finally the **sum total of time** in regard to all possible objects. (A145/B184f.)

This echoes Kant's earlier remark that transcendental schemata are "transcendental time-determinations" (para. 4, A138/B177, A139/B178). We noted that earlier in the *Analytic*, Kant suggested that the categories are associated with kinds of synthesis carried out on "the manifold of pure intuition" (A78f./B104), leading us to expect them to concern spatial or temporal features. We now see confirmation of this expectation; the transcendental schemata are rules for determining perceptions with respect to their temporal features.<sup>23</sup> Admittedly, the rival interpretations have their own ways of explaining in what sense schemata are "time-determinations" (e.g. Allison, 2004, pp. 214–8; Guyer, 1987, pp. 167f.), but it is worth noting that the SYNTHESIS-RULES INTERPRETATION can explain this important data-point.

As a final piece of evidence: Kant's initial notes for the Schematism chapter further support the SYNTHESIS-RULES INTERPRETATION: "That under each of our pure concepts of the understanding we must lay a schema, a way of compounding [*zusammensetzen*] space and time" (*Refl* 5552, 18:220). It is highly plausible that "compounding space and time" means carrying out synthesis of imagination on the manifold of pure intuition, e.g. when I "so to speak draw the shape" of a house (B162). So the transcendental schema is a (representation of) a "way" of conducting synthesis of imagination.

I have now argued that many passages unequivocally support the SYNTHESIS-RULES INTERPRETATION, including Kant's general remarks about schemata (para. 6); his characterizations of mathematical and empirical schemata (para. 7); his characterizations of the schemata of <quantity>, <reality> and <possibility> (paras. 9, 10, 14, 17); and his initial notes for the chapter. This constitutes a wealth of material, encompassing almost everything in the central paragraphs of the Schematism. If the reader accepts the elucidations I have offered, he or she ought to accept that there is a great deal of support for the SYNTHESIS-

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<sup>23</sup> He also describes transcendental schemata as "*a priori* formal conditions of sensibility (namely of the inner sense)" (A139f./B179); "formal and pure condition[s] of the sensibility" (A140/B179); as "concern[ing] the determination of inner sense in general, in accordance with conditions of its form (time)" (A142/B181); and as representing acts of "pure synthesis" (A142/B181).

RULES INTERPRETATION. Of course, before we can reach a final assessment, we need to consider any potential evidence in the other direction.

## 4. Problems for the SYNTHESIS-RULES INTERPRETATION

In this section, I will consider a number of passages that present *prima facie* problems for the SYNTHESIS-RULES INTERPRETATION. In each case, I argue that the evidence is overridden by other considerations.

### 4.1 Schemata as “monograms”

I begin with one remaining characterization of the schemata of “sensible concepts” (i.e. empirical and mathematical concepts). In paragraph 7, Kant writes: “the schema of sensible concepts (such as figures in space) is a product and as it were [*gleichsam*] a monogram of pure *a priori* imagination” (A141f./B181). This has led some commentators (e.g. Matherne, 2015, pp. 763–5) to conclude that schemata are imagistic representations, a conclusion that is more easily reconciled with the INTUITIONS INTERPRETATION than the SYNTHESIS-RULES INTERPRETATION.<sup>24</sup> Before unpacking the metaphor, let’s get crystal clear about what a monogram is. A monogram is a logo composed of a person’s initials, often used to display who made or who owns some product or document. For example, the renaissance artist Albrecht Dürer used a monogram to differentiate his own prints from those of imitators (fig. 2; cf. MacGregor, 2016, pp. 303–5).

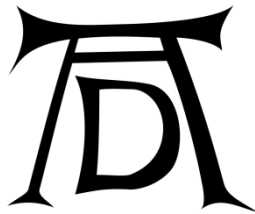


Figure 2. Albrecht Dürer's monogram

As this example shows, a monogram is indeed an imagistic representation. So if schemata are just like monograms, this suggests that they are intuitions rather than rules for mental operations.

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<sup>24</sup> Note that Matherne herself tries to combine the claim that schemata are imagistic representations with a SYNTHESIS-RULES INTERPRETATION: “the monogram contained in a schema is a representation that serves as something like a stencil that guides imaginative synthesis” (2015, p. 73). However, since a stencil must have a determinate shape, it is unclear how to unpack this in a way that allows for the “generality” of schemata. Cf. Section 5.1.

#### 4.1.1 Reply

However, Kant does not literally equate schemata with monograms in the passage in question; the comparison is metaphorical, as indicated by the phrase “as it were [*gleichsam*]”. We can explain why this metaphor is apt without assuming that schemata are imagistic representations. On the SYNTHESIS-RULES INTERPRETATION, a schema is a generalized procedure that ensures the presence of certain features in the images produced. In spite of the diversity of those images, this common feature ensures that they are all recognizable as instances of a certain concept. Schemata are significantly different from monograms: they are *not* stylized images borne by different products. Nevertheless, they serve an analogous function: they facilitate the recognition of commonality among diverse products. Because Kant repeatedly insists that “the schema is to be distinguished from an image” (A140/B179), we have no reason to take the monogram metaphor any more literally than this. Despite initial appearances, the “monogram” remark does not pose a genuine problem for the SYNTHESIS-RULES INTERPRETATION.

#### 4.2 Schemata of <substance>, <cause>, <reciprocity>, <actuality> and <necessity>

A more serious challenge comes from Kant's characterizations of the remaining five transcendental schemata, which went undiscussed in Section 3.4. Consider Kant's characterization of the schema of <substance>:

The schema of substance is the persistence of the real in time, i.e., the representation of the real as a substratum of empirical time-determination in general, which therefore endures while everything else changes. (para. 11, A144/B183)

This passage's two clauses present two divergent characterizations of the schema of <substance>, neither of which equates it with a rule for synthesis of imagination. Both clauses make reference to a certain temporal structure encountered in phenomena: “the persistence of the real in time” or “the real as a substratum of empirical time-determination”. Let's compare this with the First Analogy (the corresponding part of the System of Principles). There, Kant argues that every event is constituted by an alteration in the properties of a persisting, unchanging substrate, and that this permanent substrate is substance. So the temporal structure described in Schematism paragraph 11 seems to be the “real” insofar as it “persists”, i.e. phenomenal substance.

How does the schema of *<substance>* relate to this temporal structure? According to the first clause, the schema *is* this temporal structure; according to the second, it is *the representation* of this temporal structure. Once again, Kant seems to be paying little heed to the vehicle/content distinction. As it's now a familiar point that Kant consistently asserts that schemata are representations, we should assume that the second clause is closer to Kant's intended meaning. Nevertheless, this does not agree with the SYNTHESIS-RULES INTERPRETATION. If schemata are rules of synthesis of the imagination, the schema of *<substance>* should be a representation of the *procedure for producing perceptions of objects exemplifying* this temporal structure, not a representation of the temporal structure itself. Therefore, the passage conflicts with the SYNTHESIS-RULES INTERPRETATION.

The same is true of the passages about the schemata of the remaining four categories:

The schema of the cause and of the causality of a thing in general is the real upon which, whenever it is posited, something else always follows. It therefore consists in the succession of the manifold insofar as it is subject to a rule.

The schema of community (reciprocity), or of the reciprocal causality of substances with regard to their accidents, is the simultaneity of the determinations of the one with those of the other, in accordance with a general rule.

[...]

The schema of actuality is existence at a determinate time.

The schema of necessity is the existence of an object at all times. (A144f./B183f.)

The schemata of *<cause>*, *<community>*, *<actuality>* and *<necessity>* are seemingly identified with the temporal features exhibited by the phenomena that fall under those concepts. Given the parallelism with the paragraph on the schema of *<substance>* and the fact that schemata are supposed to be representations, we should probably take the correction “i.e. the representation of [these features]” to be tacitly implied. Even so, this representation would not be a rule for synthesis, but a representation of a feature of objects. Consequently, Kant's characterizations of these five schemata pose problems for the SYNTHESIS-RULES INTERPRETATION.

How do they compare with the two rival interpretations? They fit fairly well with the SUBSUMPTION-RULES INTERPRETATION. On that view, the transcendental schemata ought to

specify the temporal structures that objects must exemplify in order to be subsumed under each category. Similarly, they are perfectly compatible with the INTUITIONS INTERPRETATION: they support the idea that a schema represents a certain pattern exemplified by instances of the relevant concept, and that the pattern corresponding to each of the categories is a certain temporal structure. So here we have *prima facie* evidence against the SYNTHESIS-RULES INTERPRETATION and in favour of its rivals.

Let's compare this with the summaries given in paragraph 17. Starting with the schemata of relation (i.e. of *<substance>*, *<cause>* and *<reciprocity>*), we find: "the schema [*sic*] of relation ["contain[s] and make[s] representable"] the relation of the perceptions among themselves to all time (i.e., in accordance with a rule of time-determination)" (A145/B184). This passage could be read as reiterating the account of paragraphs 11–13, according to which the schemata of *<relation>* represent temporal structures, and thus as supporting either the SUBSUMPTION-RULES or the INTUITIONS INTERPRETATION. Alternatively, by focusing on the latter part of the quotation, we could read the passage as equating these schemata with the "rules" for imposing these temporal structures on perceptions through procedures of synthesis, i.e. as supporting the SYNTHESIS-RULES INTERPRETATION. Therefore, this passage is ambiguous between all three readings.

Proceeding to the schemata of *<modality>*, Kant writes that these "contain and make representable" "time itself, as the correlate of the determination of whether and how an object belongs to time." This is at odds with both the SYNTHESIS-RULES INTERPRETATION, according to which the schema should be a representation of a mental activity; "time itself" is not a mental activity, but a formal feature of all sensible representations. On the other hand, since the subsumption-rules for the categories are supposedly representations of temporal features, and since "time itself" can certainly be represented by a pure intuition (cf. A31f./B47), we might think this fits with either the SUBSUMPTION-RULES or the INTUITIONS INTERPRETATION. However, a representation of "time itself" is not a representation of any object's existence.<sup>25</sup> Consequently, this does not match Kant's earlier claim that the schema of *<actuality>* represents "existence at a determinate time" and the schema of *<necessity>* represents "an object's existence at all times". Nor does it fit with the core tenet of the SUBSUMPTION-RULES and INTUITIONS INTERPRETATIONS, according to which a schema should present a pattern distinctive of a concept's objects: "time itself" is not a pattern exemplified by certain objects,

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<sup>25</sup> This claim features prominently in the Transcendental Aesthetic (A31/B46).

but an infinite structure within which they exist. Therefore, paragraph 17's characterization of the modal schemata cannot easily be squared with *any* available interpretation.

#### 4.2.1 Reply

The evidence of paragraphs 11–13 and 15–16 certainly presents *prima facie* difficulties for the SYNTHESIS-RULES INTERPRETATION. In order to reach an *ultima facie* judgment, we need to put these passages in context. So, to recapitulate our findings, Kant first claims that all schemata are rules for synthesis of the imagination (para. 6, A140/B179f.). Then he gives characterizations of mathematical and empirical schemata that fit this description (para. 7, A140f./B180). Next, he characterizes transcendental schemata as “pure syntheses, in accord with a rule of unity”, which we read as an infelicitous attempt to characterize them as rules for pure synthesis (para. 7, A142/B181). Proceeding to the particular transcendental schemata, he describes the schemata of *<magnitude>* and *<reality>* as rules for particular kinds of synthesis of imagination (paras. 9–10, A142f./B182f.). Then he seemingly equates the schemata of *<substance>*, *<cause>*, *<reciprocity>*, *<actuality>* and *<necessity>* with temporal structures, or representations of them (paras. 11–13 and 15–16, A144f./B183f.). But in the midst of these, we find the schema of *<possibility>* being characterized as (a representation of) a kind of pure synthesis (para 14. A144/B184). Then he offers a summary which confirms that the schemata of *<magnitude>* and *<quality>* are representations of kinds of synthesis of imagination, leaves room for doubt over what the schemata of *<relation>* are, and muddies the water over the schemata of *<modality>* by characterizing them in a further divergent way.

If we take them at face value, there is no way to reconcile all of these remarks: Kant states that all schemata are rules of synthesis of the imagination (A140/B179f.) and states that some schemata are something other than rules of synthesis of the imagination (A144f./B183f.). In order to read his account as consistent, we are therefore forced to read some passages as misstatements. (It seems considerably more charitable to convict Kant of occasionally misstating his point than of endorsing obvious contradictions.) So we now need to judge which statements are the erroneous ones.

I think there are solid reasons for concluding that it is the passages about the schemata of *<substance>*, *<cause>*, *<reciprocity>*, *<actuality>* and *<necessity>* which are the misstatements, and therefore upholding the SYNTHESIS-RULES INTERPRETATION in spite of this *prima facie* evidence against it. There are two types of reason for this. Firstly, there are quantitative reasons. The evidence supporting SYNTHESIS-RULES INTERPRETATION simply

outweighs the evidence conflicting with it. The paragraphs which I have argued support the SYNTHESIS-RULES INTERPRETATION cover 80 lines (in the *Akademie* edition), whilst those that conflict with it cover only 19 lines. In some sense, this must mean that there is *more* textual evidence for the SYNTHESIS-RULES INTERPRETATION than against it, and that when push comes to shove we should be more willing to explain away the latter evidence.

Secondly, there are qualitative reasons. Numerous textual clues suggest that paragraphs 11–16 (most of which cause problems for the SYNTHESIS-RULES INTERPRETATION) are less carefully formulated than paragraphs 6–10 (which support the SYNTHESIS-RULES INTERPRETATION). Kant begins his enumeration of the transcendental schemata by signalling that he is reluctant to explain this part of his account fully:

Rather than pausing now for a dry and boring analysis of what is required for transcendental schemata of pure concepts of the understanding in general, we would rather present them according to the order of the categories and in connection with these. (para. 8, A142/B181)

As the list of transcendental schemata unfolds (paras. 9–16), Kant seems to rush more and more, with his descriptions becoming increasingly compressed. Even in the unproblematic paragraphs on *<quantity>* and *<reality>* we have seen how Kant slips into misleading phrasing, running together the representation of a kind of process, the property shared by processes of that kind, and the process itself. Yet the remarks which cause problems for the SYNTHESIS-RULES INTERPRETATION occur only in the final, hasty paragraphs (paras. 11–16), in which Kant's characterizations are clipped to one sentence per schema. These paragraphs are riddled with vehicle/content confusions and fail to present a uniform account of schemata: most characterize the schemata as temporal structures; one paragraph explains that he really intends *representations* of these structures; but in the middle of this, the schema of *<possibility>* is characterized as an act of synthesis rather than the structure it produces. All of these signals indicate that these paragraphs were written more hurriedly, and therefore support the hypothesis that they contain misstatements of Kant's considered views.<sup>26</sup>

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<sup>26</sup> Should we consider the hypothesis that the reason these later characterizations do not fit the SYNTHESIS-RULES INTERPRETATION is because there is a principled difference between the schemata of "mathematical" categories and those of "dynamic" categories? This seems unappealing because (i) the schema of *<possibility>* fits with the SYNTHESIS-RULES INTERPRETATION (cf. Section 3.4) and (ii) this would still clash with Kant's assertion that all schemata are rules for synthesis of imagination (cf. Section 3.1). Perhaps for these reasons, no commentator to date has proposed this hypothesis.



Within the Schematism chapter, then, the evidence *for* the SYNTHESIS-RULES INTERPRETATION outweighs the evidence *against* it. Hence, we should conjecture that when Kant writes, for example, “The schema of necessity is the existence of an object at all times” (A145/B184), this is an all too hasty attempt to express the thought that “the schema of necessity is *a rule for synthesizing images which represent* the existence of an object at all times”. Due to the carelessness of expression that we have seen so frequently throughout these paragraphs, this conjecture does not seem too hard to swallow. It is a cost for any interpretation if it has to reject the words on the page in favour of ‘what Kant ought to have written’. Nevertheless, I think that this is the most parsimonious way to render Kant’s statements consistent. I therefore conclude that the *prima facie* evidence against the SYNTHESIS-RULES INTERPRETATION discussed in this subsection is ultimately outweighed.

### 4.3 Schemata in the 2<sup>nd</sup> Critique

Looking beyond the first *Critique*, we find further passages that pose *prima facie* difficulties for the SYNTHESIS-RULES INTERPRETATION. The *Critique of Practical Reason* contains a chapter called ‘Of the Typic of Pure Practical Judgment [*Urteilstkraft*]’, which parallels the first *Critique*’s Schematism chapter—it deals with the question of how the *a priori* rules of pure practical reason can be applied to the concrete cases we encounter in sensibility. Kant writes:

Thus the judgment [*Urteilstkraft*] of pure practical reason is subject to the very same difficulties as that of pure theoretical reason, though the latter had means at hand of escaping from these difficulties, namely that with respect to its theoretical use it depended upon intuitions to which pure concepts of the understanding could be applied, and such intuitions (though only of objects of the senses) can be given *a priori* and thus, as far as the connection of the manifold in them is concerned, given *a priori* (as *schemata*) conformably with pure concepts of the understanding. (*KpV* 5:68, Kant’s emphasis)

One natural way to read the bracketed phrase “(as *schemata*)” would be as referring to the “intuitions” of the previous clause. This would suggest that schemata are intuitions, not rules for synthesis of imagination. Consequently, Allison points to this passage as evidence for the INTUITIONS INTERPRETATION (1981, p. 67).

### 4.3.1 Reply

However, on the following page, Kant writes:

To a natural law, as a law to which objects of sensible intuition as such are subject, there must correspond a schema, i.e. a general procedure of the imagination (by which it presents a priori to the senses the pure concept of the understanding which the law determines). (*KpV* 5:69)

Here the schema is equated with (a representation of)<sup>27</sup> a “general procedure of the imagination” for producing sensible representations: a rule for synthesis of imagination, not an intuition. In the light of this apparent contradiction between the two passages, we need to rethink whether the former really supports the INTUITIONS INTERPRETATION. Consulting the German, it also seems viable to read the phrase “(as *schemata*)” as referring to “the pure concepts” rather than the intuitions.<sup>28</sup> This would be a slightly imprecise way to state the idea that intuitions relate to the categories by means of schemata, and would therefore be compatible with the latter passage’s implication that a schema is “a general procedure of the imagination”. Therefore, any *prima facie* evidence against the SYNTHESIS-RULES INTERPRETATION presented by this passage is ultimately undermined.

### 4.4 *Schemata in the 3<sup>rd</sup> Critique*

The final piece of *prima facie* evidence against the SYNTHESIS-RULES INTERPRETATION comes from the *Critique of Judgment*. The section On Beauty as a Symbol of Morality begins:

Intuitions are always required to display the reality of our concepts. If the concepts are empirical the intuitions are called **examples**: if they are pure concepts of the understanding the intuitions go by the name of **schema**. (*KU* 5:351)

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<sup>27</sup> Making the usual correction for Kant’s vehicle/content sloppiness.

<sup>28</sup> Cp. “dergleichen Anschauungen [...] a priori, mithin, was die Verknüpfung des Mannigfaltigen in denselben betrifft, den reinen Verstandesbegriffen a priori gemäß (als *Schemate*) gegeben werden können.” Here, “the pure concepts of the understanding” is the noun phrase that most immediately precedes the phrase “(as *schemata*)”. (Of course, there is a mismatch of case between the two phrases, but it is fairly common for an appositional phrase without an article to be written in the nominative; cf. Hennig et al, 2016, p. 92.)

According to this passage, “schema” is the name for a certain kind of intuition. It is undeniable that this is *prima facie* evidence for the INTUITIONS INTERPRETATION (and against the SYNTHESIS-RULES INTERPRETATION). Unlike the passages discussed in Sections 4.2–3, there is no chance that Kant really intends the term “schema” to apply to a rule of synthesis of imagination.

#### 4.4.1 Reply

As with the texts discussed in Section 4.2, my strategy will be to argue that, while the passage really does constitute evidence for the INTUITIONS INTERPRETATION, this evidence is outweighed; and to outline a plausible way of explaining away the apparent conflict.

In terms of the weight of evidence, it is still the case that we have identified far more lines of text unequivocally supporting the SYNTHESIS-RULES INTERPRETATION than unequivocally supporting the INTUITIONS VIEW. Therefore, the overall cost of taking this passage at face value seems considerably higher than the cost of explaining it away. Moreover, it seems reasonable to give less evidential weight to this as a statement about Kant’s theory of schemata: this is a tangential remark that occurs in the course of making a point that has little to do with the concerns of the Schematism chapter. In contrast the evidence for the SYNTHESIS-RULES INTERPRETATION assembled throughout Section 3 came from the Schematism itself—Kant’s most sustained attempt to explain the nature and function of schemata.

How might we explain the words on the page without adopting the INTUITIONS INTERPRETATION? The simplest hypothesis is that Kant is using the term “schema” in a different sense in this passage: he is applying the term “schema” to something other than the things he called “schemata” in the Schematism chapter. Obviously we shouldn’t be too trigger-happy about positing ambiguities in Kant’s terminology; I am only claiming that the conjecture is justified here because some such move is needed to render his different remarks consistent. Nevertheless, interpreters of Kant are quite commonly forced to posit terminological inconsistencies in order to find coherence in the underlying account, so it does not seem too damning for the SYNTHESIS-RULES INTERPRETATION that it calls for this step.<sup>29</sup>

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<sup>29</sup> Cf. Kemp Smith’s memorable remark: “Kant flatly contradicts himself in almost every chapter; and [...] there is hardly a technical term which is not employed by him in conflicting senses. As a writer, he is the least exact of all the great thinkers” (1918, p. xxix).

Sections 4.1 and 4.3 presented material that might be thought to undermine the SYNTHESIS-RULES INTERPRETATION, but turns out to be compatible with it. Contrastingly, the passages discussed in Sections 4.2 and 4.4 really do conflict with the SYNTHESIS-RULES INTERPRETATION, if they are taken at face value. Nevertheless, I argued that the overall weight of evidence dictates that we should explain these passages away, either as infelicitous attempts to state his real meaning or as terminological inconsistencies.

When there is evidence pointing in different directions, there is an all too human tendency to act as if the question cannot be settled. We all have the inclination to cling to the shreds of support for our initial beliefs, even as the evidence piles up against them. At this point, anyone inclined to go on denying the SYNTHESIS-RULES INTERPRETATION should perhaps make a list of all of the passages that unequivocally support their favoured interpretation and all those that conflict with it. Textual interpretation always involves judgment-calls, but I am firmly convinced that the best grounded judgment is to endorse the SYNTHESIS-RULES INTERPRETATION.

## **5. Objections to the Rival Interpretations**

In order to further sure up this judgment-call, let now me present what I think are serious problems with the INTUITIONS and SUBSUMPTION-RULES INTERPRETATIONS.

### ***5.1 Objections to the INTUITIONS INTERPRETATION***

The first stumbling block for the INTUITIONS INTERPRETATION is of course the wealth of textual evidence against it. Gram addresses this problem by conjecturing that Kant is deeply ambivalent about the nature of schemata (1968, p. 91), and that this is a characteristic of a broader ambivalence that pervades his theory of judgment (1968, pp. 83f.). Since many other commentators have found ways to avoid attributing this deep inconsistency to Kant, it is a significant weakness of Gram's account that he has to take this step. All things being equal, it is preferable to charge Kant with misstating his point in a small number of passages, rather than trying to fuse two inconsistent positions. Allison attempts to avoid saddling Kant with this kind of inconsistency by distinguishing different kinds of schemata. He concedes that mathematical and empirical schemata are rules of synthesis (2004, p. 210), but argues that transcendental schemata are intuitions. However, as argued in Section 3, Kant's characterizations of schemata as rules of synthesis are not confined to his discussions of mathematical and empirical schemata. He characterizes *all* schemata as "representation[s] of

a general procedure of the imagination for providing a concept with its image” (A140/B179f.), as well as describing the transcendental schemata of *<magnitude>* and *<reality>* as representations of kinds of synthesis of imagination. Therefore, neither Gram nor Allison adequately addresses the weight of textual evidence conflicting with the INTUITIONS INTERPRETATION.<sup>30</sup>

The second problem for the INTUITIONS INTERPRETATION is that it struggles to account for the “generality” of schemata. Kant states this requirement most clearly in his discussion of the schema of *<triangle>*, which must “attain the generality of the concept, which makes this valid for all triangles, right or acute, etc.” (A141/B180). In order to mediate between the concept *<triangle>* and the sensible intuitions that fall under it, the schema must be flexible enough to cover the range of different shapes which instantiate that concept. Now, if the schema of *<triangle>* is an intuition of a triangle, it must either have an obtuse angle or a right angle or three acute angles (on pain of violating the laws of Euclidean geometry). But if the schema has one of these determinate characteristics, then Kant’s theory seems to be subject to the very objections that Kant thinks are fatal for the Lockean theory of abstract ideas. In the same way that “No image of a triangle would ever be adequate to the concept of it”, it seems that no intuition could ever be adequate.

Since Allison and Gram only hold that *transcendental* schemata are intuitions, it is worth showing that this problem applies for them too. Take the category of *<reality>*. Presumably, the relevant intuition would represent a temporally extended fluctuation of intensive magnitudes, e.g. the sight of a coloured patch fading to black or the sound of bagpipes getting steadily louder. Again this intuition would have to be determinate in various ways which would “limit” it “to one part of th[e] sphere”, making it impossible for it to “attain the generality of the concept” *<reality>*. For example, either the intuition would represent the quality as always increasing in intensity, or it would represent it as steady or decreasing for some period of time. In either case, this would differentiate it from many of the examples to which the concept of *<reality>* is meant to apply.

Gibbons acknowledges that the INTUITIONS INTERPRETATION must give some explanation of how an intuition can attain the relevant sort of generality. She proposes that we look to Kant’s account of the role of construction in mathematical proof for an answer to this problem (1994, p. 74). Kant holds that to prove synthetic propositions in mathematics, we have to construct concrete examples of the relevant concepts, e.g. to prove that all

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<sup>30</sup> Gibbons (1994, pp. 53–78) and Pollok (2017, pp. 234–8) offer no solutions to the textual difficulties.

triangles' angles sum to  $180^\circ$ , we construct some specific triangle (A716f./B744f.). The triangle used in this proof will have various properties that are not shared by all triangles (e.g. having an obtuse angle), but Kant holds that it can still give us knowledge about triangles in general. Might a schema be an intuition treated in the same way that a construction is used in a mathematical proof, and thus attaining a kind of generality in spite of its particularity?

Gibbons' proposal might seem promising, but it quickly runs into problems. The INTUITIONS INTERPRETATION needs to find a way to avoid identifying schemata with what Kant calls "images", since Kant carefully contrasts these two kinds of representation (cf. Sections 3.1–3). To explain what he means by an "image", Kant gives the example of "plac[ing] five points in a row, . . . ." to form "an image of the number five" (A140/B179). From this, it is clear that Kant would classify the representations produced in mathematical construction as "images". Consequently, schemata cannot be representations of that sort—we cannot explain the generality of schemata by appealing to the generality of mathematical constructions, on pain of conflating schemata and images.

This points to a more general problem for the INTUITIONS INTERPRETATION: we need an explanation of how schemata *qua* intuitions would differ from "images". Admittedly, some recent work has suggested that, for Kant, not all intuitions are images. Images are the complex intuitions that result from synthesis of imagination, and some commentators claim that Kant endorses a kind of intuition that does not depend on synthesis (cf. Section 2.3). Could proponents of the INTUITIONS INTERPRETATION keep schemata and images separate by claiming that they are unsynthesized intuitions? Aside from it being controversial whether Kant is really committed to the existence of unsynthesized intuitions, this proposal is unattractive in its own right. Kant is clear that schemata are "product[s] of the imagination" (A140/B179), and proponents of the INTUITIONS INTERPRETATION have rightly emphasized that schemata depend on synthesis of imagination (Allison, 1981, pp. 68f.; Gibbons, 1994, p. 74).

A final objection applies specifically to transcendental schemata. Consider the dilemma: are transcendental schemata empirical or pure intuitions?<sup>31</sup> There are decisive objections to either option. On the one hand, Kant insists that transcendental schemata "must be pure (without anything empirical)" (A138/B177; cf. A139f./B178f.), so they cannot be *empirical* intuitions. On the other hand, Kant holds that the transcendental schemata pertain

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<sup>31</sup> Gram (1968, p. 101) and Allison (1981, p. 66) claim that they are pure intuitions, while Gibbons seems indecisive (1994, p. 72).

to sensation. This is obvious in the case of the schema of *<reality>*, which concerns the “generation” of magnitudes of “sensation”. But the relational schemata also make reference to the “real” in appearances and the modal schemata concern “the existence of an object”—neither of which can be represented by pure intuitions. It therefore seems that *pure* intuitions could not exhibit the features required for transcendental schemata (with the possible exception of the schemata of the quantitative categories).<sup>32</sup> If transcendental schemata can neither be empirical intuitions nor pure intuitions, the only available conclusion is that they are not intuitions at all.<sup>33</sup>

## 5.2 *Objections to the SUBSUMPTION-RULES INTERPRETATION*

The SUBSUMPTION-RULES INTERPRETATION faces two main problems. Firstly, it faces a dilemma over the schemata of sensible concepts (i.e. mathematical and empirical concepts). Are these distinct from the concepts they schematize, or are they identical to them? If the schema is distinct from its concept, this threatens to open up a rule-regress. The schema (*qua* subsumption-rule) is supposed to explain how we can relate particular objects to a general representation, viz. the concept. But wouldn't a further rule be needed to explain how we can connect these particulars with the subsumption-rule itself? After all, the subsumption-rule is just as general a representation as the concept it allegedly schematizes. Kant himself points out the threat of this kind of regress and hence warns against explaining the power of judgment via rules for judging (A132–4/B171–4, *KU* 5:169). It therefore seems thoroughly uncharitable to accuse Kant of having made this mistake. On the other hand, Kant does seem to insist that sensible concepts have separate schemata (cf. Section 3.2–3). When he writes:

Even less does an object of experience or an image of it ever reach the empirical concept; rather the latter is always related immediately to the schema of the imagination (A141/B180)

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<sup>32</sup> Cf. Kant's insistence that the categories can't be exemplified in pure intuition via construction, which is why philosophy must have a different methodology from mathematics (A722/B750). This latter issue is discussed by Gram (1968, pp. 124–8) and Allison (1981, pp. 72f.), but neither deals satisfactorily with the basic point that an intuition corresponding to a category must present something “real”, and therefore involve sensation.

<sup>33</sup> In contrast, on the SYNTHESIS-RULES INTERPRETATION, we can say that a transcendental schema is an a priori rule (i.e. one that deals only with temporal structure) for generating a certain kind of empirical intuition (i.e. intuitions in which that temporal structure is imposed on sensations).

he is clearly presupposing the non-identity of schema and concept. Proponents of the SUBSUMPTION-RULES INTERPRETATION are therefore forced to claim that Kant is thoroughly confused about the relation between sensible concepts and their schemata.<sup>34</sup> All things being equal, we should prefer more charitable readings, so this is a serious weakness for the SUBSUMPTION-RULES INTERPRETATION.

The second problem concerns transcendental schemata. According to the SUBSUMPTION-RULES INTERPRETATION, a transcendental schema takes the merely logical content of a category and adds further sensible conditions. The schema thus picks out a restricted class of the objects to which the category applies and makes explicit what their sensible features are. On this reading, it is at least clear how a transcendental schema differs from the concept it schematizes. However, the account faces a more serious problem. Semantically speaking, a schema so construed is useless for establishing relations between categories and objects of experience. This is because adding extra marks to a concept cannot *increase* the sphere of possible objects falling under that concept—adding further necessary conditions always results in a subset of the initial range of objects. Hence, the schema would only apply to intuited objects if the category itself already applied to those objects, independently of the schema. Understood in this way, the schema does nothing to explain why the categories apply to certain appearances. Given how unsatisfying a theory of transcendental schemata this would be, the principle of charity obliges us to pursue the SUBSUMPTION-RULES INTERPRETATION only as a last resort.

## 6. Conclusion

I have argued that there is strong textual evidence for the SYNTHESIS-RULES INTERPRETATION, and that this outweighs the small amount of evidence that initially seems to clash with it. Moreover, I have argued that both of the alternatives—the INTUITIONS and SUBSUMPTION-RULES INTERPRETATIONS—has serious internal problems. I therefore hope to have established beyond reasonable doubt that schemata are rules for synthesis of imagination.

Despite this, there is still more work to be done before we fully understand the place of schemata within Kant's theory of cognition. It is an important first step to have determined what kind of mental representations schemata are, but we still need an account of how schemata are involved in the process of subsuming intuited objects under concepts.

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<sup>34</sup> Bennett (1966, pp. 146–7) and Chipman (1972, pp. 43–6) are explicit in this regard.



Proponents of the SYNTHESIS-RULES INTERPRETATION have made some important initial proposals regarding this latter issue. The main suggestion is that a schema “guides” the process of synthesis of imagination, specifying how sensible material is to be put together into a complex intuition (e.g. Longuenesse, 1998, p. 117). This seems promising: it is plausible that fixing certain parameters of the process of synthesis would guarantee that the resulting intuition has certain characteristics, while leaving leeway over a range of other factors. The schema would thus stand in a special relation to a class of particular intuitions, viz. those whose production was “guided” by that schema, but it would nevertheless have the “generality” needed to cover the whole “sphere” of the relevant concept (A141/B180). For example, the schema of *<fox>* would stand in a clear relation to numerous intuitions, all of which would present objects as having reddish-brown fur, pointed ears, ambling movements, etc., yet these intuitions would be diverse enough to allow for foxes of different ages, sizes, etc..

These are promising beginnings, but more needs to be said about what it means for a schema to “guide” synthesis. Is this meant to be full blown rule-following, as when we “act on a maxim”? Or do my acts of synthesis merely instantiate the rule specified by the schema, without being regulated by the represented rule? Interpreters have tended to favour the latter option (Allison, 2004, p. 189; Matherne, 2015, p. 771; Pendlebury, 1995, p. 786; Young, 1988, p. 153), but it is unclear why the mind would have any need for a schema *qua* mental representation if this were the case. More work is therefore needed to clarify the function of schemata *qua* rules for synthesis of imagination.

Though there is more work to be done, I hope to have achieved a not insignificant goal in this article. I hope to have established once and for all that schemata are rules for synthesis of imagination, and given readers the tools to make sense of the central paragraphs of the Schematism chapter.



# Kant, Animal Intuitions and Conceptualism

**Abstract:** Kant holds that some non-human animals “are acquainted with” objects, despite lacking conceptual capacities (i.e. “understanding”). What does this tell us about his theory of human cognition, particularly the relation between sensibility and understanding? Numerous authors have argued that this is a significant point in favour of Nonconceptualism (the claim that, for Kant, sensible representations of objects do not depend on the understanding). Against this, I argue that Kant’s remarks about animal minds can be readily accommodated by a Conceptualist reading of a suitably nuanced kind. Conceptualists have good reason to accept that, for Kant, (i) humans’ sensible representations necessarily have thinkable contents and (ii) representations with thinkable contents depend on the understanding. This allows Conceptualists to maintain that *humans’* sensible representations depend on the understanding, while admitting that sensible representations *of a different kind* are possible in the absence of the understanding: a restricted form of Conceptualism is consistent with Kant’s remarks about animal minds. We must therefore reassess both the warrant for Nonconceptualism and the bounds within which Conceptualism ought to operate.

## 1. Introduction

The *Critique of Pure Reason* advances a rich and complex account of human cognition.

Central to Kant’s account are two related ideas:

(1) *Intuitions and Concepts*. Cognition (i.e. thoughts that have objective representational purport) requires us to unify two kinds of mental representation, viz. intuitions (i.e. sensible representations of particulars) and concepts (i.e. general representations deriving from the understanding).

(2) *Sensibility and Understanding*. Cognition requires the interaction of two distinct mental capacities, viz. sensibility (i.e. the capacity to acquire representations through being affected by objects) and understanding (i.e. the capacity to form concepts and thoughts).

Interpreters of Kant still disagree about how these two distinctions line up with one another. Does Kant believe that our intuitions require only sensibility, or do they also depend on a contribution from the understanding? The two opposing sides of this debate can be characterized as follows:

**Conceptualism:** According to Kant, intuitions depend on acts of the understanding as well as sensibility.

**Nonconceptualism:** According to Kant, intuitions do not depend on acts of the understanding, but are produced by sensibility on its own.<sup>1</sup>

Clearly, if we think there is value in making sense of Kant's theory of cognition, then we need to try and make headway with the Conceptualism/Nonconceptualism debate.

Recently, a number of commentators have tried to do just this by drawing on Kant's remarks about non-human animals (henceforth "animals"). Kant holds that animals lack the capacity of understanding; therefore, his remarks about them promise to shed light on what he thought sensibility could accomplish on its own. In the past few years, something of a consensus has emerged that Kant's remarks about animals "clearly support Nonconceptualism".<sup>2</sup> This is because Kant appears to credit animals with sensible representations of objects (i.e. intuitions), despite lacking understanding.

In what follows, I will argue that Kant genuinely does credit animals with intuitions, but that an attractive form of Conceptualism can accommodate this. Therefore, contrary to the consensus, Kant's views about animals do not provide evidence for Nonconceptualism—they are equally compatible with Conceptualism. Nevertheless, they do impose strict limits on what kind of Conceptualist interpretation is viable. A proper understanding of this issue leads to a reassessment of the warrant for Nonconceptualism but also of the bounds within which Conceptualism ought to operate.

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<sup>1</sup> See McLear (2014, p. 772) and Gomes (2016a, p. 540, pp. 550f.) for this way of framing the debate. I hereby set aside related questions which have also featured prominently in the debate, such as the content of intuitions (Allais, 2009; Tolley, 2013) and their dependence upon concept-possession (Ginsborg, 2008, pp. 71–5; Grüne, 2009, ch. 5).

<sup>2</sup> The quotation is from Allais (2016, p. 8) and echoes Gomes (2014, pp. 6f.). This consensus has been challenged by two articles which are discussed below (Land, 2018; van den Berg, 2018). My approach bears affinities with that of Land (2018), but I intend to go beyond his short discussion by motivating a detailed account of how Conceptualists can accommodate animal intuitions; by explaining how the resulting interpretation upholds not just the letter but the spirit of Conceptualism; and by critically engaging with the alternative response of denying Kant's commitment to animal intuitions.

In Section 2, I explain why we should take seriously the suggestion that Kant's views about animals support Nonconceptualism. I present an argument for Nonconceptualism based on Kant's commitment to animal intuitions. In Section 3, I argue that Kant genuinely credits animals with intuitions: I analyze a wide range of texts (some of which have previously been overlooked) and argue that, even though the relevant sources are inherently unreliable, the sheer number and coherence of these passages makes it implausible that they are all errata. Section 4 begins explaining how Conceptualists can accommodate Kant's commitment to animal intuition, by identifying the logical space for a "Restricted Conceptualism". On this view, *human* intuitions are produced by the understanding, and belong to a kind that could not be produced in its absence. Section 5 fleshes this out by arguing that this view is well motivated by Kant's texts and broader considerations about his theory of cognition. In particular, there are good reasons to accept (i) that all human intuitions have thinkable contents and (ii) that all representations with thinkable contents depend on acts of the understanding. This renders it plausible that human intuitions do depend on acts of the understanding, despite the fact that intuitions *of a different kind* are possible in the absence of that capacity. Conceptualists therefore have an attractive way to uphold the dependence of human intuitions on the understanding, while accommodating animal intuitions. I conclude (Section 6) by highlighting the substantive differences between Nonconceptualism and Restricted Conceptualism, on which future research must focus.

## **2. The Argument from Animal Intuitions**

Why would Kant's supposed commitment to animal intuition be thought to support Nonconceptualism? Consider this argument:

### ***The Argument from Animal Intuition***

- (1) Kant holds that animals lack the capacity of understanding.
- (2) Kant holds that animals are capable of having intuitions.
- (3) Therefore, it is incoherent to ascribe to Kant the view that intuitions depend on acts of the understanding.

Arguments of this kind are endorsed by Lucy Allais (2009, pp. 405–7, 2016, pp. 8f.), Colin McLear (n.d., 2011, p. 14, 2014, p. 773) and Anil Gomes (2014, pp. 6f.). These authors present the argument more-or-less in passing, devoting only a few lines to it, but it's easy to see why they think it poses a problem for Conceptualists. The conclusion is tantamount to a denial of Conceptualism. And the inference has serious intuitive appeal: if the premises are true, the intuitions of animals cannot possibly depend on acts of the understanding. This

makes it hard to see how we could go on denying that intuitions are independent of the understanding.

Insofar as Conceptualists are unwilling to capitulate to this argument, they have two options: either deny one of its premises, or question its validity. Before moving on to my main discussion, let me note the strong textual support for premise (1), which is not typically taken to be controversial.

Although Kant credits animals with more complex mental lives than did some of his predecessors (cf. Naragon, 1990), he is nevertheless unequivocal in denying them the capacity of understanding. Kant writes that “a human being has, in his understanding, something more than [“the rest of the animals”]” (*MS* 6:434; cf. A546/B574, *V-Met-K3E/Arnoldt* 29:949, 1017). This is reaffirmed and explained in the *Metaphysik Mrongovius* (1782–3):

A concept is the consciousness that the [same] is contained in one representation as in another, or that in multiple representations one and the same features are contained. [...] Animals indeed compare representations with one another, but they are not conscious of where the harmony or disharmony between them lies. Therefore they also have no concepts, and also no higher cognitive faculty, because the higher cognitive faculty consists of these. (29:888)

Animals can identify and discriminate objects by means of mental representations (as we will see in Section 3), but they cannot identify or discriminate dimensions of similarity or difference among objects. This renders them incapable of forming general representations, i.e. concepts. In lacking this ability, Kant states that they lack a “higher cognitive faculty”.<sup>3</sup>

In other passages, Kant identifies the kind of consciousness which animals lack as “consciousness of ourselves” or “apperception” and explains that our capacity for concepts depends on our distinctive capacity for self-consciousness. For instance, he remarks in the *L<sub>I</sub> Metaphysics* (mid 1770s) that “animals [...] will forgo only those representations which rest [...] on the consciousness of oneself, in short on the concept of the I. Accordingly they will have no understanding and no reason”(28:277; cf. *ibid.* 28:278, *Anth* 7:127, *H* 7:397, *V-Anth/Mron* 25:1215, *V-Met/Mron* 29:878f.). In sum, Kant clearly and consistently denies that animals possess the capacity of understanding, both in published works and in lecture

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<sup>3</sup> Kant characterizes the understanding as a “higher cognitive faculty” (e.g. *Anth* 7:196, *Refl* 210a 15:81).

transcripts. It follows that Conceptualists must either deny that Kant really credits animals with intuitions, or else deny that the Argument from Animal Intuition is valid.

### 3. Kant's Commitment to Animal Intuitions

Is it viable to deny that Kant credits animals with intuitions? To assess this, we need to consider the relevant textual evidence. I begin by presenting the full range of relevant passages (Section 3.1). Since Kant's commitment to animal intuitions is a controversial matter, I will take the time to consider more passages and analyze them at greater length than has been done in previous discussions. After presenting the passages, I address the fact that they are all drawn from unreliable sources, namely lecture transcripts and the *Jäsche Logic* (Section 3.2). I argue that, despite their questionable origin, these passages cumulatively amount to very strong evidence that Kant credits animal with intuitions—given their number and coherence, it is highly unlikely that they are all errata.

#### 3.1 Textual Evidence

I begin with three passages indicating that Kant attributes intentional<sup>4</sup> mental states to animals, followed by three passages confirming that these states are intuitions. The first passage comes from the *Jäsche Logic* (1800):

In regard to the objective content of our cognition in general, we may think the following *degrees*, in accordance with which cognition can, in this respect, be graded:

The *first* degree of cognition is: *to represent* something; [...]

The *third*: *to be acquainted* with something (*noscere*), or to represent something in comparison with other things, both as to *sameness* and as to *difference*;

The *fourth*: to be acquainted with something *with consciousness*, i.e., to *cognize* it (*cognoscere*). Animals are *acquainted* with objects too, but they do not *cognize* them. (9:64f., Kant's emphasis)<sup>5</sup>

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<sup>4</sup> I intend "intentionality" to be equivalent to Kant's notion of a representation's "relation to the object [*Beziehung auf das Objekt*]". "Intentional" therefore corresponds to Kant's term "objective" in one of its uses (e.g. A320/B376).

<sup>5</sup> "In Ansehung des objectiven Gehaltes unserer Erkenntniß überhaupt lassen sich folgende Grade denken, nach welchen dieselbe in dieser Rücksicht kann gesteigert werden: / Der erste Grad der Erkenntniß ist: sich etwas vorstellen; [...] / Der dritte: etwas kennen (*noscere*) oder sich etwas in der Vergleichung mit andern Dingen vorstellen sowohl der Einerleiheit als der Verschiedenheit nach; / Der vierte: mit Bewußtsein

There is strong reason to think that in this passage Kant credits animals with mental states exhibiting intentional “relation to an object”. Kant writes that “animals are *acquainted* with objects”. It seems reasonable to suppose that “acquaintance [*kennen*]” picks out an intentional mental state and that “to be acquainted with something” means that the “something” is the intentional object of the mental state. This impression is confirmed by several facts. (i) Kant characterizes “acquaintance” as a way of “represent[ing]” the object in question. (ii) The remark about animals occurs in the course of making divisions within the domain of the “objective content” of “cognition [*Erkenntniß*]”. Earlier in the *Logic*, Kant stated that “all our cognition has [...] a relation to the *object*” (9:33, emphasis in original; cf. *Log* 9:91, A320/B376);<sup>6</sup> so by introducing “acquaintance” in a list of different kinds of “cognition” with “objective content”, Kant is classifying “acquaintance” as a representation with relation to an object. (iii) The “first degree” of the list—“to represent something”—seems already to be a state with intentionality. Since each stage in the list appears to be more demanding than the previous stages, this suggests that the higher “grades” also exhibit intentionality. (iv) Kant also introduces the notion of “acquaintance” in a similar graded list from the pre-critical *Blomberg Logic* (early 1770s), characterizing it in the same way, and explicitly classifying it as a way of “cognizing” a thing (24:135). Altogether, this amounts to a very strong case that “acquaintance” is a kind of representation with intentional relation to an object. In attributing “acquaintance with objects” to animals, Kant is crediting them with mental representations exhibiting intentionality.<sup>7</sup>

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etwas kennen, d. h. erkennen (*cognoscere*). Die Thiere kennen auch Gegenstände, aber sie erkennen sie nicht.”

<sup>6</sup> Kant uses the term “cognition” in two different senses (see below). “[C]ognition in general” at the beginning of the passage appears to be cognition in the broad sense; “cognizing” in the “fourth degree” is most likely cognition in the narrow sense. There are no grounds for thinking that Kant ever uses the term to designate non-intentional states.

<sup>7</sup> Caution is required when using the *Jäsche Logic*: the notes on which it is based span much of Kant’s teaching career, so one can doubt whether a given passage in Jäsche’s text represents Kant’s mature views. However, Kant uses the notion of “acquaintance [*Kenntnis*]” in published works from the critical period (e.g. A207/B252, A540/B568, *G* 4:451, *KpV* 5:51). Moreover, the corresponding Reflection (*Ref* 2394 16:342f.) bears evidence of continued revision, suggesting that it is not a relic of Kant’s pre-critical thought. The remark about animals is absent from the Reflection, suggesting that it is drawn from the lost lecture transcript, “presumably derived from [...] late in [Kant’s] career”, on which scholars think much of the *Jäsche Logic* is based (Young, 1992, p. xviii–xix).



The next passage comes from the *Wiener Logic* (1780–1). Once again, Kant offers a graded list of mental representations:

1. The lowest degree is to represent something. When I cognize that which relates to the object, I represent the object.
2. To cognize, *percipere*, is to represent something in comparison with others and to have insight into its identity or diversity from them. [...] For animals also cognize their master, but they are not conscious of this. (24:845f.)<sup>8</sup>

What Kant here describes as “cognizing” seems to correspond to “acquaintance” in the previous list: it is an intentional representation which allows for the identification and discrimination of objects. As argued above, Kant’s choice of the term “cognize” favours interpreting this as an intentional state. This is again confirmed by the context: (i) slightly earlier in this set of lecture notes, Kant is recorded as affirming that “all our cognitions” exhibit “relation to the object” (24:805); (ii) the “lowest degree” on this list already requires “represent[ing] an object”, indicating that the list catalogues divisions within the domain of intentional states; and (iii) Kant explicitly glosses “to cognize” as a way “to represent something”. Therefore, when Kant affirms in the final quoted sentence that “animals also cognize their master”, we have overwhelming reason to think he is ascribing a kind of intentional mental state to animals, the “master” being the intentional object of that state.

Why the discrepancy in terminology between the *Jäsche* and *Wiener* passages? In the former, Kant states that “animals [...] do not *cognize* [objects]” (*Log* 9:65, Kant’s emphasis); in the latter, that “animals [...] cognize their master” (*Vo/L-Wiener* 24:846). Does this apparent contradiction suggest unreliable transcription? We should not draw this conclusion, because there are strong independent reasons for thinking that Kant uses the term “cognition” in two different senses. In the broad sense, “cognition” means *a representation with relation to an object*, e.g. a concept, intuition or judgment, while “cognition” in the narrow sense means *an objectively valid synthetic judgment* (cf. Grüne, 2009, p. 29; Watkins & Willaschek, 2017, pp. 84–7). Even within the *Jäsche* passage, Kant uses the term in these two different senses: the list as a whole deals with different kinds of cognition in the broad sense,

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<sup>8</sup> “1.) der niedrigste Grad ist sich etwas vorstellen. Wenn ich das, was sich auf den Gegenstand bezieht, erkenne: so stell ich mir den Gegenstand vor. / 2.) erkennen, percipere, heißt sich etwas in Vergleichung mit andern vorstellen, und seine identitaet oder Verschiedenheit davon einsehen. [...] Denn Thiere erkennen auch ihren Herrn aber sind sich deßen nicht bewußt.”

while the “fourth degree” isolates cognition in the narrow sense. (Cf. fn 6.) Consequently, we can easily reconcile the two passages: in the *Jäsche* passage, Kant denies that animals have cognition in the narrow sense, i.e. objectively valid synthetic judgments; in the *Wiener* passage, he affirms that animals have cognition in the broad sense, i.e. intentional representations of objects.<sup>9</sup>

Is it significant for our purposes that the *Wiener* passage denies that animals are “conscious of” “cognizing their master”? In a famous passage in the *Critique of Pure Reason* (the “Stufenleiter”), Kant appears to categorize “cognition” and “intuition” as forms of “perception [*Perzeption*]”, i.e. “representation with consciousness” (A320/B376f.; cf. *Log* 9:91). Therefore, there is a *prima facie* tension between Kant’s denial that animals’ cognitions are conscious and his affirmation that they are cognitions. However, there are various other passages in which Kant affirms the existence of unconscious cognitions (*Refl* 1705 16:88, *V-Lo/Wiener* 24:805, *V-Lo/Busolt* 24:635) and intuitions (*Anth* 7:135, *Refl* 1705 16:88).<sup>10</sup> Hence, there are good reasons for explaining away the tension, rather than reading Kant as denying the possibility of unconscious cognitions or intuitions. Here are three possibilities for reconciling unconscious cognition with the “Stufenleiter” passage: (i) the passage could be read not as defining “cognition” as “objective perception”, but merely asserting that all “objective perceptions” are “cognitions”. This leaves open the possibility that some cognitions are not perceptions. (ii) Since Kant is interested in multiple different kinds of consciousness, perhaps the kind of consciousness that animal (and other unconscious) cognitions lack is different from the kind of consciousness required for cognition (cf. McLear, 2011). (iii) Perhaps Kant uses the terms “cognition” and “intuition” in a non-standard way in the “Stufenleiter”, e.g. because (general and transcendental) logic excludes unconscious representations from consideration (cf. *V-Lo/Busolt* 24:635). I conclude that the apparent tension in Kant’s attribution of unconscious cognitions to animals can be diffused.

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<sup>9</sup> The proposal that “cognition” is used in different senses is further supported by the fact that Kant translates “cognition” with two different Latin terms in the two passages—“cognoscere” and “percipere”. Thanks to Reed Winegar for this point.

<sup>10</sup> Furthermore, there are copious passages in which Kant endorses the existence of unconscious concepts, which also constitute a species of unconscious cognitions (cf. Grüne, 2009, pp. 84–102).

A further remark supports the same conclusion: “Animals do have representations of the world but not of their I. Consequently, they are not rational beings” (*V-Anth/Mron* 25:1215).<sup>11</sup> To have “representations of the world” is to have intentional mental states.

Together, these three passages provide extremely strong evidence that Kant ascribes intentional states to animals. Are these intentional states intuitions? Since animals possess sensibility but lack understanding, their representations of objects must be *sensible* representations of objects, so it is natural to expect that they are intuitions. This expectation is borne out by three more passages from lecture transcripts:

Animals cannot make concepts, there are sheer intuitions with them (*V-Met-L2/Pölit* 28:594).<sup>12</sup>

Animals are not capable of any concept – intuition they do have (*V-Lo/Dohna* 24:702).<sup>13</sup>

Now how can we conceive animals as beings below human beings? [...] [W]e can think of things which are *below* us, whose representations are different in species and not merely in degree. We perceive in ourselves a specific feature of the understanding and of reason, namely consciousness, if I take this away there still remains something left yet, namely, sensation, imagination, the former is intuition with presence, the latter without presence of the object[.] (*V-Met/Volckmann*, 28:449)<sup>14</sup>

The first two passages simply attribute intuitions to animals. In the third, Kant reflects on what capacities an animal would have by imagining a creature lacking understanding and reason (and the capacity for apperception on which both depend). He states that such creatures would still have the capacity for “intuition with presence [...] of the object” and “[intuition] without presence of the object”, i.e. that an animal without understanding could still have intuitions.

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<sup>11</sup> “Die Thiere haben zwar Vorstellungen von der Welt aber nicht von ihrem Ich. Daher sind sie auch keine vernünftige Wesen.”

<sup>12</sup> “Thiere können sich nicht Begriffe machen, es sind lauter Anschauungen bei ihnen.”

<sup>13</sup> “Tiere [sind] keiner Begriffe fähig — Anschauung haben sie.”

<sup>14</sup> “Wie können wir nun die Thiere concipieren als Weesen [*sic*] unter dem Menschen. [...] [W]ir [können] uns dinge denken, die *unter* uns sind, deren Vorstellungen der specie nicht bloß dem Grad nach unterschieden sind. Wir nehmen in uns ein specifisch Merkmal des Verstandes und der Vernunft, nemlich das Bewustseyn, wahr, nehme ich dieses hinweg so bleibt doch noch etwas übrig nemlich sensus, imaginatio, erstres ist die Anschauung bey der Gegenwart, leztres ohne Gegenwart des Gegenstandes[.]”

As hinted above, it is unsurprising that Kant classifies the cognitions of animals as intuitions: Kant holds that “besides intuition there is no other kind of cognition than through concepts” (A68/B92f.). This is reaffirmed in the numerous passages in which Kant presents the contrast between intuitions and conceptual representations as a disjunction, i.e. an exhaustive distinction (A320/B376f., *Log* 9:91, *Refl* 1705 16:88, *Vo-L/Wiener* 24:805). Since animals lack concepts, it follows that whenever Kant credits them with cognitions he must tacitly be crediting them with intuitions.<sup>15</sup>

### 3.2 *The Reliability of the Textual Evidence*

I have identified six passages which provide evidence that Kant credits animals with intuitions. Let me now discuss the possibility of rejecting this textual evidence as inauthentic.

All of these passages come from sources of imperfect reliability. The *Jäsche Logic* was published in Kant's lifetime, but was not directly written by Kant. It was compiled by a former student of his, using Kant's marginalia and perhaps one or more lecture transcripts. As a result, the consensus is that “one cannot simply assume [...] that Jäsche's manual is a reliable statement of Kant's views” (Young, 1992, pp. xvi–xviii; cf. Boswell, 1988). The other sources are more questionable still: they are students' transcripts from Kant's lectures. They have barely been edited, and were certainly not checked for accuracy by Kant himself. Discussing the logic lectures, Young writes that “one cannot look to [them], in general, for precise, carefully worded formulations of fundamental points” (1992, p. xix). I have argued that the texts display Kant's commitment to animal intuitions, but it remains possible that in doing so they misrepresent Kant's views. Would it be legitimate for the Conceptualist simply to reject the textual evidence I have assembled?

There are two reasons why this would be inadvisable. Firstly, the evidence from all of these sources points in the same direction—I have identified passages from six different works asserting that animals have representations of objects, and I am unaware of any

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<sup>15</sup> I set aside interesting questions about the “forms” of animals' intuitions. Although I lack space to argue for it here, I believe that Kant would credit animals with quasi-spatial and quasi-temporal forms of intuition: quasi-spatial to allow for the discrimination of objects without reliance on recognizing qualitative differences, e.g. tracking a particular tennis ball despite the presence of other tennis balls; and quasi-temporal to allow for the re-identification of objects despite manifest qualitative differences, e.g. recognising a particular human whether she is standing or sitting. My suspicion is that, while these formal properties of intuition are in some sense a priori, Kant would deny animals the capacity to exhibit them in a pure intuition—animals' capacities for discrimination and re-identification suggest certain forms of intuition, but not the possession of formal intuitions (cf. B160–1n).

passages that deny this. We would expect any transcription errors to be distributed more or less randomly, pointing in divergent directions. On the contrary, these passages all support the same conclusion, thus rendering it highly implausible that they are all errata.

Secondly, historians of philosophy should not be too cavalier about declaring passages inauthentic. Our task is to find the most coherent interpretation of the texts we have, so we should demand positive reason before excluding any passage from consideration. The Conceptualist might reply that these texts are shown to be inauthentic by the very fact (if it is a fact) that they cannot be reconciled with Conceptualism. However, this would simply beg the question against the Nonconceptualist, as well as conceding that the passages provide *prima facie* support for Nonconceptualism. At this stage, it seems likely that the Conceptualism/Nonconceptualism debate can only be settled by weighing *prima facie* evidence: no knock-down arguments have been identified by either side. It follows that Conceptualists should be reluctant to concede that they cannot accommodate these passages.

A further possibility is that there might be more substantive, less baldly circular reasons for denying that Kant ascribes intuition to animals. In a recent article, Hein van den Berg (2018) argues that Kant does not credit animals with “objective perceptual awareness”, by comparing his theory of cognition with two of his predecessors, Reimarus (1694–1786) and Buffon (1707–88). The article highlights some very interesting parallels, but its main argument seems to rely on an ambiguous use of the term on which it centres, viz. the notion of a “blooming, buzzing confusion”. At best, van den Berg gives us reason to conclude that, for Kant, animal representations are “blooming, buzzing confusions” in the sense of being “confused” or “obscure” (p. 7). Van den Berg seems to conclude on this basis alone that animals’ representations are “blooming, buzzing confusions” in the further sense of lacking intentionality (p. 8). But as we have already noted, Kant explicitly accepts that some unconscious or “obscure” representations are nonetheless intentional representations of objects (cf. Section 3.1). Therefore, it is illegitimate to slide from claiming that animal representations are “obscure” to claiming that they lack intentionality without further argument. In the absence of substantive considerations bridging this gap, van den Berg’s argument is not compelling.

Pending other substantive objections, we must conclude that Kant really does credit animals with intuitions. Therefore, the Conceptualist cannot respond to the Argument from Animal Intuition by denying either of its premises. The next section begins exploring the remaining option, namely questioning the argument’s validity.

## 4. The Logical Space for Restricted Conceptualism

We have seen that there is strong textual support for both premises of the Argument from Animal Intuition, and that the Conceptualist should resist the temptation to reject this evidence as inauthentic. This means accepting that:

(1) Kant holds that animals lack the capacity of understanding;

and

(2) Kant holds that animals are capable of having intuitions.

Does it follow that we should reject Conceptualism (i.e. the view that, according to Kant, intuitions depend on acts of the understanding)? This section will argue that there is logical space for maintaining a restricted form of Conceptualism while accepting both (1) and (2).

The inspiration for this way of responding to the Argument from Animal Intuition comes from John McDowell (1994, pp. 114–23). Defending an account of perceptual experience similar to that ascribed to Kant by the Conceptualist, McDowell considers a possible objection: doesn't his theory, according to which perceptual experience depends on activities of one's conceptual capacities, entail that animals lack "outer experience"? McDowell's response is that animals are capable of a certain kind of experience of outer objects, though one that is radically different from our own.<sup>16</sup> In effect, McDowell's version of conceptualism is restricted in scope: he does not hold that all kinds of outer experience depend on acts of conceptual capacities, but he does insist that the outer experience of humans depends on such acts, and that the contribution of the understanding makes possible a qualitatively different kind of experience. McDowell holds that *our kind* of outer experience depends on acts of our conceptual capacities.<sup>17</sup>

We needn't examine the details McDowell's views about the difference between animal and human experience. What matters for our purposes is the general shape of his strategy. McDowell wants to reconcile two claims: (a) our outer experience depends on our conceptual capacities and (b) animals lacking those capacities are nevertheless capable of outer experience. He is able to do so by restricting the dependence claim of (a) to a certain kind of outer experience.

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<sup>16</sup> McDowell denies that animals have intentional representations; to be clear, I am *not* proposing reading Kant as denying intentionality to animal intuitions.

<sup>17</sup> A similar view about the relation between experience and conceptual capacities is defended by Boyle (2014).

McDowell's response is not proposed as an interpretation of Kant's views, but it is clearly germane to our exegetical inquiry. To see how this relates to the Argument from Animal Intuition, consider again our specification of Conceptualism from Section 1:

**Conceptualism:** According to Kant, intuitions depend on acts of the understanding. This formulation is indeterminate in its scope, and can therefore be understood in (at least) two different ways.

**Universal Conceptualism:** According to Kant, intuitions *of all kinds* depend on acts of the understanding.

**Restricted Conceptualism:** According to Kant, intuitions *of the kind humans possess* depend on acts of the understanding.

Universal Conceptualism is vulnerable to the Argument from Animal Intuition. If intuition *per se* were impossible without a contribution from the understanding, then animals lacking that faculty would lack intuitions. The importance of this result must not be underestimated—arguably, the default view among Conceptualists has been to think that no intentional states are possible in the absence of the understanding.<sup>18</sup> The Argument for Animal Intuitions shows that this is not the correct way to read Kant.

However, Restricted Conceptualism upholds the claim that, within Kant's account of human cognition, the understanding plays an active and indispensable role in the very production of intuitions. And yet it can be reconciled with the premises of the Argument from Animal Intuition, because it does not entail that no intuitions are possible in the absence of understanding. If Restricted Conceptualism is a viable reading of Kant, then Kant's commitment to animal intuitions does not support Nonconceptualism, but is consistent with Conceptualism.

The logical space for this form of response to the Argument from Animal Intuition has already been noted by a recent short discussion (Land, 2018). In one sense, this is enough to defang the argument (by showing that it is formally invalid). However, dialectically speaking, more needs to be done than highlighting the logical possibility of this reading. Firstly, we need some positive motivation for exploring Restricted Conceptualism, before it

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<sup>18</sup> E.g. Ginsborg (2008, p. 65), Bauer (2012, pp. 227–9), Griffith (2012, pp. 2000–6). Grüne also holds that relation to an object depends on conceptual capacities, but leaves open the possibility that a being could possess a capacity for rule-governed sensible synthesis despite lacking the capacity to judge, and hence have intuitions without fully possessing understanding (2009, pp. 202f.).

can be seen as a serious alternative to Nonconceptualism. Secondly, one might suspect that the Restricted Conceptualist is in danger of giving up the spirit of Conceptualism by reducing the dependence of human intuition upon the understanding to the point of triviality: many Nonconceptualists accept that the understanding makes possible qualitatively different kinds of intuition, so something must be said to convince us that Restricted Conceptualism is more than a notational variant of Nonconceptualism. I therefore aim to go beyond the initial discussion of Land (2018) by motivating a detailed version of Restricted Conceptualism and explaining how it upholds not just the letter but the spirit of Conceptualism.<sup>19</sup> This account will need to make each human intuition dependent on the understanding for its very existence. Moreover, it must identify a significant, intrinsic feature that all human intuitions possess, which would be impossible in the absence of the understanding.

## 5. Fleshing Out Restricted Conceptualism

I begin by identifying some textual motivations for Restricted Conceptualism (Section 5.1), before arguing for a detailed version of the view (Section 5.2).

### 5.1 Textual Motivations

Let me note two passages suggesting that Kant favours the possibility that there is a qualitative difference between human intuitions and animal intuitions. (To my knowledge, these passages have not previously been discussed in this connection.) I believe these texts show that—in the absence of decisive evidence either way—we should take Restricted Conceptualism seriously as an interpretative possibility.

In one of the passages quoted in Section 3.1, Kant writes:

Now how can we conceive animals as beings below human beings? [...] [W]e can think of things which are below us, *whose representations are different in species and not merely in degree* (V-Met/Volckmann 28:449, emphasis added)

If Nonconceptualism were true, then there is no reason that the representations of animals would be different from our (most basic<sup>20</sup>) intuitions. But Kant does *not* identify animals'

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<sup>19</sup> The position defended below is very much in line with the account of human cognition Land develops in earlier articles (e.g. 2006, 2011).

<sup>20</sup> Some Nonconceptualists hold that the understanding is involved in converting basic intuitions into more complex intuitions (cf. McLear, n.d.). But on this view it would still be the case that our most basic intuitions are untouched by the understanding and hence of the same kind as animals' intuitions.



representations with our intuitions. Instead, he asserts that they are “different in species” from any representations humans possess. This amounts to an assertion that the presence of understanding transforms the nature of intuitions, with the result that animal intuitions belong to a kind which humans lack, and vice versa. Therefore, this passage supports Restricted Conceptualism and presents a problem for Nonconceptualism.

The same idea is repeated in Kant’s initial manuscript for the *Anthropology*:

The cow, lacking understanding, may well <perhaps> have something similar to what we call representations (because, in terms of effects, they coincide <greatly> with representations in humans) but which might be completely different from them. (*H* 7:397)<sup>21</sup>

Kant is more tentative here, but he still avoids assimilating the cow’s representations with our own sensible representations. Instead, he raises the possibility that the cow’s representations are “completely different” from any of our representations. Again, the Restricted Conceptualist can readily explain this, while the Nonconceptualist—who holds that the understanding plays no role in generating our (most basic) intuitions—is faced with a puzzle. Why would the cow’s intuitions be “completely different” from our own, if our intuitions float free from the cognitive differences between ourselves and cows?

I don’t want to overstate what these passages show. The *Volckmann* passage positively affirms that the intuitions of animals are “different in species” from any representations that humans possess. However, as we have already noted, “one cannot look to [lecture transcripts], in general, for precise, carefully worded formulations of fundamental points” (Young, 1992, p. xix). The *Anthropology Manuscript* passage is from Kant’s own hand, but is much more tentative, raising the possibility that animal intuitions are qualitatively different without fully endorsing it. Accordingly, it would be unwise to make a positive case for Restricted Conceptualism on the basis of these texts alone. What the passages do show is that the burden of proof is by no means stacked against Restricted Conceptualism. In the absence of decisive evidence either way we should take seriously the hypothesis that, for Kant, the understanding is implicated in the production of human intuitions, making them qualitatively different from what animals possess. I have not come

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<sup>21</sup> “Das Verstandlose [*sic*] Vieh hat wohl <vielleicht> etwas dem Ähnliches was wir Vorstellungen nennen (weil es den Wirkungen nach mit dem was Vorstellungen im Menschen sind <sehr> übereinkommt) was aber vielleicht gantz davon unterschieden seyn mag[.]”

across any evidence that Kant denies that there is a qualitative difference between human and animal intuitions so, if anything, these two passages make Restricted Conceptualism seem more likely than Nonconceptualism.

## 5.2 *The Broader Case for Restricted Conceptualism*

In this subsection, I will argue that there are good reasons for endorsing Restricted Conceptualism, spelling out how and why human intuitions differ from those of animals. Along the way, I will demonstrate that the resulting interpretation is genuinely distinct from Nonconceptualism: it makes human intuitions dependent on the understanding in ways that all Nonconceptualists deny. First, I will argue that there are good reasons for thinking that human intuitions depend on the understanding for their existence, because (i) intuitions are produced through synthesis of the imagination and (ii) in humans, synthesis of the imagination is an act of the understanding. Second, I will argue that human intuitions necessarily have “thinkable contents” (explained below), while animal intuitions can never have these contents.

The first component of this broader case for Restricted Conceptualism is the evidence that Kant thinks that intuitions are produced by the imagination. This forms a core part of the Conceptualist position—anyone already sympathetic to Conceptualism should readily accept it. It is also well motivated by Kant's texts. To my mind, the most compelling piece of evidence is Kant's claim that

without it [i.e. the imagination's “synthesis of apprehension”] we would not be able to have the *a priori* representations of space or of time, since these can be produced only through the synthesis of the manifold that sensibility [...] provides. (A99)

Here, Kant claims that humans' *a priori* representations of space and time are produced by the imagination.<sup>22</sup> The *a priori* representations of space and time are intuitions, and Kant holds that we must possess them to be able to represent the spatial and temporal relations exhibited by all empirical intuitions (cf. A23/B38, A30/B46). This suggests that a “synthesis of the imagination” is required to generate the formal (i.e. spatial and temporal) features of intuitions, whether they are *a priori* or empirical.<sup>23</sup> From this vantage point, it becomes

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<sup>22</sup> Cf. *KU* 5:190, where Kant characterizes the imagination as “the faculty of intuitions *a priori*”.

<sup>23</sup> In light of the A99 passage, I think there is good reason to read the infamous B160–1n passage as advancing the same position. Nonconceptualists have attempted to explain away the B160–1n passage by claiming that it

plausible to read Kant's descriptions of the "apprehension" of sensible material<sup>24</sup> as describing a process through which empirical intuitions are first produced, so that their material features depend on synthesis of imagination too.

Some Nonconceptualists accept that intuitions depend on synthesis of the imagination.<sup>25</sup> Others deny this, claiming that a basic kind of intuition is possible prior to synthesis.<sup>26</sup> I don't intend to have established once and for all that, for Kant, intuitions are produced through synthesis of the imagination—we might still conclude that, all things considered, the evidence I have given is outweighed. Nevertheless, I have shown that there is strong *prima facie* evidence for this first component of the Restricted Conceptualist position.<sup>27</sup>

The second component is Kant's view that the imagination operates in a profoundly different way in beings that possess the faculty understanding (viz. humans), compared to beings that do not (viz. animals). In general, Kant holds that the mental capacities of animals are qualitatively different from those of humans: "Animals are [...] different from human souls not in degree but rather in species" (*V-Met-L1/Pölitz* 28:276; cf. *KU* 5:464, *V-Lo/Dohna* 24:702). In particular, he explicitly contrasts the capacities for "reproductive imagination" of humans and of animals. Powers of the reproductive imagination

can be accompanied by apperception or not. When they are, then they belong only to human beings, when not – then animals also have them. We ought, therefore, to have two different names for these, but for this [capacity] there is only one [name], namely the reproductive power of imagination. (*V-Met/Mron* 29:884)

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applies only to geometrical constructions and not to our most basic intuitions of space and time (Onof & Schulting, 2015), but there are no textual grounds for thinking that this is what is going on in the A99 passage.

<sup>24</sup> E.g. A79/B105, A99, A105, A120, B151, B160.

<sup>25</sup> This 'First Wave' of Nonconceptualists includes Rohs (2001, p. 222), Hanna (2005, p. 249) and Allais's earlier work (2009, pp. 294f.).

<sup>26</sup> This 'Second Wave' of Nonconceptualists includes Tolley (2013, pp. 122f.), Matherne (2015, pp. 32f.), McLearn (2015, pp. 100f.) and Allais's later work (2017, pp. 32f.).

<sup>27</sup> The most serious motivation for denying that the intuitions of space and time are produced through synthesis is the argument that their *whole-prior-to-part* structure of mereological dependence is incompatible with being produced through synthesis (cf. McLearn, 2015). This merits further discussion (which I must postpone for another occasion), but it would be premature to think that the argument is irrefutable (cf. responses by Land, 2014; Rosefeldt, n.d.; Williams, 2018).

By claiming that there ought to be two different names for this capacity, Kant is explicitly differentiating two species of it: reproductive imagination with apperception and reproductive imagination without apperception. Within his account of human cognition in the *Critique of Pure Reason*—where the imagination is accompanied by apperception—Kant goes so far as to describe synthesis of the imagination as “an effect of the understanding on sensibility” (B152) and to claim that

It is one and the same spontaneity that, there [in “synthesis of apprehension”] under the name of the imagination and here [in “synthesis of apperception”] under the name of understanding, brings combination into the manifold of intuition. (B162n; cf. A79/B104f., B153)

This means that *in humans*, it is the understanding that is ultimately responsible for the sensible synthesis through which (I have just argued) intuitions are produced.<sup>28</sup> In effect, the intuitions of humans are produced by acts of the understanding.

How can this be reconciled with the possibility of animal intuitions? As we have seen Kant holds that animals do possess a faculty of imagination, though one that is different in kind from that of a human. An animal's imagination is capable of combining sensible material together through merely receptive and associative processes. Traditionally, Conceptualists have tended to think that these kinds of imaginative process could not result in a mental representation with intentionality.<sup>29</sup> However, in the light of the textual evidence discussed in Section 3, we should consider another possibility: that these associative processes *are* capable of generating intuitions, i.e. singular representations of objects. On this reading, the intuitions of humans are produced by acts of the understanding, whereas the intuitions of animals are produced by the associative tendencies of the imagination. This interpretative route upholds the dependence of human intuitions on the understanding; in doing so, it accommodates the evidence that motivates traditional forms of Conceptualism. However, it also accommodates Kant's commitment to animal intuitions, and thus amounts to a promising form of Restricted Conceptualism.

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<sup>28</sup> ‘First Wave’ Nonconceptualists typically denied that the understanding was responsible for sensible synthesis. In more recent work, Nonconceptualists tend to accept the overwhelming evidence that, in humans, synthesis of the imagination is an effect of the understanding (cf. esp. Tolley, 2013, pp. 121–4).

<sup>29</sup> Cf. fn. 18.

This is already enough to ensure that Restricted Conceptualism is genuinely distinct from Nonconceptualism. Nonconceptualists deny that human intuitions are produced by acts of the understanding (either by denying that the synthesis through which they are produced is attributable to the understanding, or by denying that intuitions are produced through synthesis at all). But there are also motivations for thinking that human intuitions depend on the understanding in an even more profound sense: not only are human intuitions produced by that faculty; they possess a feature that would be impossible for intuitions produced in any other way. The feature in question is that human intuitions necessarily have “thinkable contents”. Let me say more about (a) why human intuitions necessarily have thinkable contents, and what this means, and (b) why animal intuitions couldn’t possibly have thinkable contents.

(a) Let’s begin with evidence that Kant thinks all human intuitions have thinkable contents. At A119, after completing the Deduction “from above”, Kant claims that the Transcendental Deduction has demonstrated “the necessary coherency [*Zusammenhang*] of the understanding with appearances by means of the categories”. “Appearance” is Kant’s general term for the objects given in empirical intuition (A20/B34). So Kant is claiming that all of the objects given in intuition will conform to the categories, i.e. that the intuitions of humans always present their objects in such a way that they can be subsumed under one or other of the categories. In other words, Kant holds that the objects given in human intuitions are guaranteed to conform to the necessary structural features of thought.<sup>30</sup>

On what grounds does Kant assert this bold claim? The question is controversial; it is equivalent to asking, “What is the argument of the Transcendental Deduction?” But if we accept that the intuitions of humans are produced by the understanding, then there is a relatively clear path to finding a cogent argument in the Deduction.<sup>31</sup> On this reading, the understanding is responsible for taking the dispersed material of sensation (delivered through affection) and combining it into spatially and temporally unified intuitions of objects. This synthesis is guided by *rules* of synthesis, which are provided by the categories (or their “schemata”). The outcome is that all of the intuitions thereby produced exhibit certain kinds of unity, particularly in their temporal structure. Specifically, all intuitions produced by the understanding will *ipso facto* exhibit one or more of the temporal structures corresponding to

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<sup>30</sup> For the claim that the categories express the necessary structural features of all thought about objects, cf. *KpV* 5:136.

<sup>31</sup> My account is indebted to Gomes (2010).

the categories (which are enumerated in the Schematism chapter). It follows that all human intuitions will fall under one or other of the categories.<sup>32</sup> To summarize these steps, the understanding always produces intuitions with certain kinds of temporal unity. In virtue of these temporal unities, the objects given in these intuitions exemplify the categories. This is what I mean by saying that all such intuitions have thinkable contents.<sup>33</sup>

(b) But why couldn't an animal's *associative* power of imagination produce intuitions with the same kinds of temporal unity—intuitions that are intrinsically indistinguishable from those of humans? The answer lies in Kant's views about the preconditions for representing *objective* temporal structure—not only of producing intuitions with a certain *subjective* temporal form, but intuitions *that represent objects as having* a certain temporal form. Kant's clearest discussion of this comes in the Second Analogy of Experience, where he explains the mental operations that underlie our sensible representations of temporal sequences. He accepts that associative mechanisms can produce intuitions with *subjective* temporal form (i.e. they can produce a “subjective order of perceptions”), but argues that this is insufficient for representing temporal structure *in the objects* (i.e. they cannot produce representations of an “objective order”). This is because a merely associative combination of sensory material would be “entirely arbitrary” (A193/B238): for any temporal ordering the imagination introduces, it could equally well have produced the reverse order (B233, A201/B246). Consequently, a subjective ordering introduced by associative processes will ultimately be attributable to contingencies about the perceiver, rather than features of the objects perceived. The end result is that the temporal structure of intuitions produced through mere association will not have the semantic significance of representing temporal structure in the objects.

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<sup>32</sup> It remains a difficult question why, within the human mind, there couldn't also be merely *associative* production of intuitions, in addition to the *rule-governed* production of intuitions. If that were possible, it seems that we could possess animal-style intuitions as well as intuitions with thinkable contents (contrary to Restricted Conceptualism). Perhaps it is ultimately an unargued premise of the Deduction that, in humans, the imagination only produces intuitions under the direction of the understanding. Alternatively, perhaps considerations about the unity of apperception ensure that no such intuitions could belong to the human being *qua* thinking subject (cf. B131f., *Br* 10:152). These important issues cannot be addressed on this occasion.

<sup>33</sup> In contrast, Nonconceptualists have been unable to find in the Transcendental Deduction a cogent argument for the conclusion that all appearances must exemplify the categories. They are forced either to charge Kant with incoherence (Hanna, 2011) or to read the Deduction as advancing a weaker conclusion than has traditionally been thought (e.g. Allais, 2017, pp. 33–7). Since Kant appears to be committed to the stronger conclusion, this constitutes a further point in favour of Conceptualism (cf. Gomes, 2014, pp. 9–15).

In humans, the imagination's combination is led by *rules* provided by the understanding, and hence can be rendered “necessary” rather than “arbitrary”. This is what enables our intuitions to represent objective temporal structure;<sup>34</sup> and hence to represent them as having the kinds of unity that allow them to be taken up into thought. But in animals, nothing can remove the arbitrariness, so temporal structure *in the objects* can never be represented. It follows that the contents of animal intuitions differ from the contents of human intuitions. They do not represent objects as having the kinds of temporal unity that allow them to become objects of thought. Animal intuitions lack something that all human intuitions have, namely thinkable contents.

To hammer this point home, it is not the case that animals perceive objects in the same way we do and merely lack the concepts to think about them. We perceive objects as temporally structured unities, whereas animals cannot achieve this cognitive feat. And this difference has important consequences: we perceive the world as structured in a way that allows us to think about it; animals do not perceive the world as having this structure. The fact that human intuitions are generated by the understanding makes them qualitatively different from animal intuitions, and no substitute for the understanding could possibly produce intuitions of the same kind—intuitions which present objects for thought.

## 6. Conclusion

I have argued that there is overwhelming textual evidence that Kant credits non-human animals with intuitions. But contrary to what many commentators have thought, this does not provide evidence for a Nonconceptualist reading of Kant. I have argued for a Restricted Conceptualism, which claims that human intuitions depend on acts of the understanding but that a different kind of intuition can be produced by an animal mind. In support of this view, I argued that there are solid textual motivations for thinking:

- (i) That the intuitions of humans are generated by acts of the understanding, whereas the intuitions of animals are generated by merely associative activities of the imagination; and
- (ii) That human intuitions (*qua* intuitions produced by the understanding) necessarily have *thinkable contents*, whereas animal intuitions are inherently incapable of being taken up into thought.

I haven't established these two claims beyond all doubt—to do so would require evaluating *all* of the arguments relevant to the Conceptualism/Nonconceptualism debate, a task which is

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<sup>34</sup> I give a detailed account of how this works in Hutton (2018) = Chapter 1.

not feasible in one article. Therefore, the main conclusion to be drawn here is a dialectical one: contrary to what many commentators have claimed, Kant's commitment to animal intuitions provides no evidence for Nonconceptualism. Animal intuitions can be readily accommodated by an attractive and well-motivated form of Conceptualism.

Correlatively, Conceptualists must shift to Restricted Conceptualism (and accept that, for Kant, some forms of intentional mental representation are possible in the absence of conceptual capacities). This is the only way for them to deal with the undeniable evidence of Kant's commitment to animal intuitions. My discussion therefore leads to a reassessment of the bounds within which Conceptualism must operate, as well as a reassessment of the evidence for Nonconceptualism.

Let me finish by highlighting the remaining bones of contention between Restricted Conceptualism and Nonconceptualism. Restricted Conceptualism upholds the dependence of all human intuitions on the understanding and affirms that all of our sensible representations of objects are transformed by our possession of understanding. Nonconceptualists maintain that the understanding is not involved in our initial reception of intuitions, so that humans' (most basic) intuitions don't depend on the understanding and aren't importantly different from what animals possess. Future research should focus on these points of controversy, especially by continuing to examine how Kant thinks intuitions are generated and trying to settle the debate about the aims and argumentation of the Transcendental Deduction. Kant's commitment to animal intuitions should no longer be considered a point in favour of Nonconceptualism.



# Conclusion

## 1. Conclusions of Each Chapter

In Chapter 1, I began exploring the role of normativity in Kant's theory of cognition, by interrogating the notion of "necessitation" of the "subjective order of perceptions" (A193/B238), which lies at the heart of the Second Analogy of Experience. I argued that this necessitation is a form of epistemic normativity, arising from the inferential consequences of making certain causal presuppositions: when one forms the beliefs that Xs cause ABs and X obtains, it becomes epistemically obligatory to draw the conclusion that AB occurs. In order to make this empirical judgment, I must carry out a certain "synthesis of perceptions" (B218, A764/B792). So in these circumstances, an act of synthesis on the part of the imagination also becomes normatively obligatory. In this way, and in this sense, it can become necessary for an individual to synthesize perceptual material into one temporal order rather than another. Since Kant holds that this necessitation is required for us to be able to represent perceptually the objective temporal order of things, he is therefore committed to the idea that a certain kind of representational content constitutively depends on normative constraint.

In Chapter 2, I explored further the characteristics of the concept *<cause>*, with the aim of shedding light on Kant's claim that nature operates according to universal causal laws. I argued that there is overwhelming textual evidence that, according to Kant, the concept *<cause>* contains the notion of the causal connection being strictly universal and necessary, i.e. being a law. From this it follows that, given Kant's commitments, the apparently 'Weak Causal Principle' that every event has a cause actually entails the 'Strong Causal Principle' that every event happens according to a universal causal law.

Chapter 3 began the task of explaining Kant's notion of schemata, and the place of these mental representations within his theory of cognition. I proposed a new way to understand the function of schemata as rules of synthesis of imagination: these representations play a parallel function to "maxims" in the moral domain. They actively guide how the mind's activities unfold, and in doing so they qualify those activities for normative assessment. The consequence of this normative constraint is that it becomes possible to produce intuitions with 'conceptual content' (i.e. intuitions that represent the kinds of features that fix under which concepts an object is classifiable). On this proposal, schemata have a hitherto unrecognized importance for Kant's account of how we can have thoughts about objects encountered through perception. I also argued that many of the

premises which lead Kant to postulate schemata have a certain amount of appeal even from a contemporary perspective.

In Chapter 4, I used a more textual approach to try to resolve the ongoing dispute over what kind of mental representations schemata are. I analyzed a wide range of relevant passages, suggesting strategies for demystifying Kant's often unhelpful formulations. I argued that there is overwhelming textual evidence that schemata are rules for synthesis of imagination (which was a presupposition of my account in Chapter 3). I also argued that the rival accounts—(i) that schemata are intuitions and (ii) that they are rules for subsumption—have serious internal problems.

Chapter 5 engaged with the Nonconceptualism debate. I argued that Kant genuinely credits some non-human animals with intuitions (i.e. sensible representations of particular objects). However, I argued that this can be accommodated by certain 'Conceptualist' readings of Kant. There are good reasons for reading him as drawing a qualitative distinction between the intuitions of animals and those of humans. On this reading, human intuitions are produced by the understanding, while intuitions of a different kind are possible for creatures which lack that capacity. The resulting account, according to which all human intuitions have thinkable contents and all such intuitions are produced by the understanding, is well motivated textually and results in a satisfying overall reading of Kant's aims in the *Transcendental Analytic*.

## **2. Kant's Normative Theory of Representation?**

In the Introduction, I stated that the underlying question motivating the research for this dissertation was the issue of whether Kant holds that the mind's representational content constitutively depends on normativity. I will now bring together the implications of the preceding chapters for this question.

In Chapter 1, I argued that (according to Kant) our ability to represent objective temporal sequence constitutively depends on normative constraint. Only when synthesis is normatively constrained can it create contents with objective representational purport; only when our temporal orderings are assessable in the light of epistemic norms do they take on the significance of representing objective temporal sequences (i.e. sequences in the public, intersubjective world). Since we represent such sequences not only in thought but also in perceptions, even the activities that produce these perceptions must be normatively constrained.

Chapter 1 shows Kant as endorsing a normative theory of one kind of mental content. In Chapter 3, I argued for a broader dependence of representational content on normativity. I suggested that the same conclusion applies to the representation of *all* objective temporal structure. All temporal complexity in perception is introduced by synthesis of imagination; ‘arbitrary’ synthesis cannot produce contents with objective representational purport; therefore, synthesis must be normatively constrained in order to produce representations of any objective temporal structures.

This conclusion (that normative constraint is a precondition of representing any objective temporal structure) has important implications. Kant holds that, when a perceived object falls under one or other of the categories, it does so in virtue of being represented as exhibiting a certain objective temporal structure (e.g. persistence for <*substance*>; existence at some time for <*actuality*>). It follows that only when our synthesizing activities are normatively constrained will we have intuitions that correspond to the categories. Moreover, Kant holds that “all possible perceptions, [...] as far as their combination is concerned, stand under the categories” (B164f.). It is controversial whether “perceptions” here covers all of our empirical intuitions, or only empirical intuitions of a certain complexity; either way, this shows that Kant holds that normative constraint is at work in the production of a broad and important class of our mental representations.

Yet the conclusion argued for in Chapter 3 is broader still. Not only is normative constraint required for intuitions to represent objects as exhibiting objective temporal structures; it is required for them to represent objects as bearing *any* kind-properties (i.e. the general features that, according to Kant, make up the content of all of our concepts). This is because (i) synthesis of imagination is required to produce intuitions of the complexity needed for representing kind-properties, and (ii) such synthesis must be normatively constrained in order for this complexity to represent unity in the objects. This means that our mental activities must be normatively structured in order for us to perceive an object as instantiating any concept—not just the categories, but empirical and mathematical concepts too. If an intuition is to have any ‘conceptual content’ whatsoever (i.e. any content that would enable its object to be subsumed under a concept), its production must be normatively constrained. Since Kant holds that all of our thoughts are composed of general concepts and structured by the categories, it follows that normative constraint is required for us to intuit objects in a manner that allows us to have any thoughts about them. Therefore, on my interpretation, normative constraint plays an extremely pervasive role in Kant’s account of how cognition (i.e. thought directed at perceptible objects) is possible. Only when synthesis

of imagination is bound by normative constraints can perception present us with material for thought.

The question still remains of whether all of our intuitions have thinkable contents, or whether Kant holds that only a subclass of our sensible representations present objects in a way that allows us to think about them. Given the conclusions up to this point, we can think of this question as equivalent to the issue of whether normative constraint is at work in the production of all our perceptual representations, or whether we can represent objects in ways that do not depend on normative constraint. The account in Chapters 1–4 remained neutral on this issue, and is therefore compatible with both Conceptualist and Nonconceptualist interpretations of Kant.

However, in Chapter 5, I took up this question and argued that there are good reasons for maintaining a Conceptualist reading. On this view, all of our intuitions—all of our sensible representations of objects—have thinkable contents. *Ipsa facto*, they all have a kind of representational content that constitutively depends on normative constraint. If so, normativity is at work in all of our cognitive dealings with the world: whenever we arrange passively received material into intuitions, the process is structured by demands of epistemic normativity. This guarantees that we will perceive the objects around us in ways that allow us to think about them (and from there, to make inferences, to seek explanations, and to build a unified, coherent theory of the world).

Cumulatively then, my dissertation supports the conclusion that all of our representations of objects depend on normative constraint. However, it does not follow that all representational content depends on normativity. Chapter 5 also indicated that Kant credits non-human animals with sensible representations of objects (i.e. intuitions). It is not plausible that the mental activities of animals are subject to normative constraints,<sup>1</sup> so whatever content figures in their intuitions cannot be normatively constituted. We can conclude that this content is intrinsically unfit for being captured by concepts—these intuitions would not correspond to any concept even if, *per impossibile*, they were transferred into the mind of a being who possessed concepts. Therefore, Kant must endorse a form of ‘nonconceptual content’ that does not depend on normativity.<sup>2</sup>

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<sup>1</sup> Kant denies that animals have any kind of freedom (e.g. *MS* 6:213), but holds that freedom is a precondition for normative constraint (e.g. A534/B563).

<sup>2</sup> For simplicity, I set aside the possibility that the intentionality of animal representations is not implemented by representational content. If desired, it should be possible to rephrase everything I say about nonconceptual content in terms of ‘non-representational intentionality’.

Nothing I have argued in this dissertation precludes the possibility that human intuitions also have nonconceptual content, in addition to normatively constituted, conceptual content. In fact, there are positive reasons for reading Kant as arguing that our intuitions *do* have a kind of content that is not fully capturable by concepts. He holds that sensibility gives us the ability to differentiate objects independently of qualitative differences between them—to represent *numerical difference*—by representing them as spatially outside each other. The features capturable by concepts only pertain to qualitative differences, so this ability demonstrates that nonconceptual content is at work in human intuition. Moreover, this kind of nonconceptual content is crucial for human cognition. Any qualitative difference that can be drawn by means of conceptual content will only distinguish *kinds* of object: there will always be a plurality of possible objects that meet any description that can be given. Consequently, our ability to represent *particulars* is dependent on the nonconceptual content of intuition. I would be unable to have thoughts about any particular snowman or daffodil, or person, if it weren't for this nonconceptual content. And there are no reasons for thinking that, for Kant, this nonconceptual content is normatively constituted. Far from holding that every aspect of mental representation depends on normativity, Kant holds that crucial dimensions of our cognitive abilities are founded on nonconceptual content.<sup>3</sup>

By way of summary, let me compare and contrast my reading of Kant with that of John McDowell in *Mind and World* (1994)—perhaps the most influential discussion of Kant on normativity and representation in recent decades. McDowell uses Kant as a springboard for his own theorizing, and consequently pays little heed to exegetical disputes; my approach has been much more exegetically oriented, and my hope is that it consequently has a much stronger evidential basis as a reading of Kant. McDowell reads Kant as an early proponent of the idea that, for sensibility to provide us with representations that have any bearing on thought, its activities must be subject to normative standards; in this, I agree with McDowell:

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<sup>3</sup> Sensibility also allows us to re-identify an object despite qualitative differences—to represent *numerical identity*—by representing it as changing through time. Since concepts of number depend on numerical difference, we should also conclude that the whole of mathematical science would be impossible for a creature whose intuitions didn't have nonconceptual as well as conceptual content (cf. Friedman, 1992b, Chapters 1–2; Land, 2014). As well as these *formal, quantitative* varieties of nonconceptual content, there might be scope for reading Kant as endorsing *material, qualitative* nonconceptual content, pertaining to felt qualities which can be designated but not fully captured by concepts. The role of “feeling [*Gefühl*]” in giving us cognitive access to the orientation of space (*WDO* 8:134f.; cf. *GUGR* 2:380) and the impenetrability of matter (*MAN* 4:510) suggests that this might be the case. I leave this possibility for further inquiry.

I read Kant as holding that, only when synthesis of imagination is normatively constrained, can we perceive a world of objects structured in a way that allows us to think about them. McDowell reads Kant as holding that structures of normativity underlie all of the mental activities that generate representations of objects; I read Kant in the same way—our intuitions necessarily have conceptual content, so they depend on normatively constrained activities. But McDowell reads Kant as holding that conceptual content is the whole story; in contrast, I read Kant as holding that the mental activities which enable humans to make cognitive contact with the world involve a blending of aspects structured by normative constraints and aspects which are not normatively assessable—aspects of what we are like and how the world happens to impinge on us.

I am affected by things around me, by snowmen, daffodils and foxes. This generates a multiplicity of sensory signals; my sense-organs ripple with neural stimulations. To make any sense of this multiplicity, I need to organize the material, combining different factors together into complex mental representations—unified wholes with colour, shape and texture, which last through time or melt away. In doing so, my mental activities will only purport to say something about how things hang together in the objects if I am normatively responsible for the way I organize the material. Only if I am obliged, on pain of irrationality, to put the material together in a certain way, do my complex representations purport to say something about how these colours, shapes and textures actually hang together, independently of the workings of my mind. Only in virtue of these normative obligations can I perceive a world that is unified enough for me to think about it. But there are certain brute facts about how the world affects me: about what happens when my sense-organs are faced with a snowman, a daffodil or a fox, and about the frameworks of space and time through which objects appear to me. Without these brute facts—over which I have no control and for which I have no responsibility—I would have no access to those objects at all.

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